DOCUMENT RESUME

ED 178 447 SO 012 114

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|---|---|
| TITLE | School-Based Curriculum Development. |
| INSTITUTION | Organisation for Economic Cooperation and Development, Paris (France). Centre for Educational Research and Innovation. |
| PUB DATE | 79 |
| NOTE | 277p. |
| AVAILABLE FROM | OECD Publications and Information Center, Suite 1207, 1750 Pennsylvania Avenue, N.W., Washington, DC 20006 ($12.00) |
| EDRS PRICE | MF01 Plus Postage. PC Not Available from EDRS. |
| DESCRIPTORS | *Comparative Education; *Curriculum Development; Educational Administration; Educational Finance; *Educational Innovation; Elementary Secondary Education; Power Structure; *School District Autonomy; *School Role; State School District Relationship |
| IDENTIFIERS | Austria; England; France; Germany; Italy; Switzerland; Wales |

ABSTRACT

The report presents a rationale for School Based Curriculum Development (SBCD). SBCD is defined as any school initiated process which brings about a redistribution of power, responsibility, and control between central and local educational authorities. The result would be that the schools would acquire legal and administrative autonomy and professional authority enabling them to manage their own development. The document is comprised of four parts. Part I argues for basing educational innovation in the schools and draws on a number of sources ranging from theoretical models to classroom experiences. In Part II, case studies from various countries illustrate the complexity of the issue of school-based educational innovation. Countries examined are Italy, England, Wales, France, Switzerland, Austria, and Germany. Part III explores funding and administration and provides a cross-analysis of case studies described in Part II. Part IV identifies common factors and determines prerequisites that will ensure that a policy of school-based educational innovation is successfully implemented. (Author/KC)

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*Centre for Educational Research and Innovation (CERI)*

# SCHOOL-BASED CURRICULUM DEVELOPMENT

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## PREFACE

As the pace of social change accelerates, there is a growing demand for participation in decision-making in many walks of life. In industry the demand is growing for shopfloor participation in boardroom decisions. In the public area consumer groups and special interest associations now wield much influence with local, municipal and central government.

Schools have not escaped this new thrust towards greater autonomy and participation. The impact of the social environment on education has strengthened, and rapid adjustments in approach have often been needed so that practice in the schools keeps in step with the changing world outside the classroom.

"School-based curriculum development" represents one of the efforts mounted by educational systems in Member countries to meet this need. It constitutes a move away from centrally-imposed decisions handed down in precise detail to the classroom teacher towards more responsibility for the individual school and the individual teacher.

The aim is to create the conditions for carefully evolved and monitored change - to allow, within the slowly developing school system, areas of constant experimentation and zones of institutional flexibility which parallel the thrust towards change experienced in the wider environment.

This report explores the question of SBCD in its own right, and in its interaction with more traditional and larger-scale educational innovations. In addition, it attempts to spotlight the problems of expertise, of training, of budgetary design and of broadened participation in the decision-making processes; it tests theoretical models against the available experience of practical application in order to provide the teachers who will ultimately carry out the process with a useful evaluation of possibilities and pitfalls.

To introduce SBCD at the institutional level is no easy task; it involves the rethinking of practices and ideas which have grown rigid with tradition. These approaches are still in an embryonic stage, and predictably show the weaknesses - and strengths - of any new enterprise. The present report reinforces the views already outlined in earlier CERI reports that the schools themselves should

play a role in initiating and carrying through educational change. Fostering the development of SBCD to which this report is designed to make a contribution represents an important step forward in this direction. An idea which started as an educational outgrowth in response to local demands now promises to become an important tool to simplify and broaden the dialogue between school and society.

J.R. GASS
Director
Centre for Educational
Research and Innovation

# INTRODUCTION

This report on school-based curriculum development represents a logical continuation of a line of enquiry into educational innovation already pursued in two earlier CERI studies, namely the Handbook of Curriculum Development (1975), preceded by The Creativity of the School (1973). Both identified a clear need for more active participation by the schools in the processes of educational innovation, a point of view also discernible among the conclusions of other related OECD enquiries, for instance Studies of Educational Innovation Vols.I-IV (1973) and Participatory Planning in Education (1974).

Addressed principally to managers of educational innovation, whether currently engaged in the field or likely to be called upon to do so in the future, the study seeks to consider in a certain amount of detail the whole question of school-based participation and to afford some measure of guidance. Consequently, it embraces both theoretical considerations and instances of direct experience in the form of six individual case studies undertaken in OECD countries. Modes of operation are investigated, common problems determined and an attempt is made to identify those members of the community at large, and the educational hierarchy in particular, who are most needed and can most probably be counted on to play a major role in devising and implementing educational changes that are not imposed by the central administration but are essentially rooted in the schools.

The report is articulated around four main points. Part One argues the case for basing educational innovation upon schools, drawing on a number of sources ranging from theoretical models to everyday classroom experiences. In Part Two, case studies carried out in Member countries provide a rich mine of information while illustrating that the issue of school-based educational innovation is not without complexity. Part Three explores the particularly important dimension of funding and administration. This section also provides a first cross-analysis of the case studies described in Part II. Further analyses make up the fourth and last part of the report, which seeks to identify common factors and to determine prerequisites that will ensure that a policy of school-based educational innovation is successfully initiated and implemented.

Finally, acknowledgements are made here to M. Skilbeck, A.N. Oppenheim and I. McMullen for their assistance in clarifying a number of concepts and issues discussed in this report.

Part I

# THE CASE FOR SCHOOL-BASED CURRICULUM DEVELOPMENT

## 1. WHAT IS SBCD?

'School-Based Curriculum Development is a new name for an old idea. The idea is that the best place for designing the curriculum is where the learner and the teacher meet. For example, unlike the Sophists, who claimed to have plans and achemes to teach anyone useful knowledge and pre-defined techniques, Socrates built up his curriculum in and through relationships with students who displayed an aptitude for philosophical and mathematical reasoning. This was SBCD with the public places of Athens serving as the school and the joint dialectical experiences of the teachers, his peers and his public constituting the curriculum'.(1)

These historical roots clearly lay behind the definitions of SBCD put forward by A.M. Furumark and I. McMullen at the International Seminar on School-Based Curriculum Development held in 1973 at the New University of Ulster. Taking the term 'curriculum' broadly, as '... the programme used by the school as a means of accomplishing its purpose, (including) all the experiences of children for which the school should accept responsibility',(2) they say: 'SBCD indicates all the activities undertaken in order to improve the quality of the curriculum, when these activities are initiated, planned and performed by the parties involved in daily school work: teachers, parents, pupils and school administrators',(3) while 'SBCD is taken to mean (curriculum) development that is based on the school and is largely dependent on school staff and resources.'(4)

There is little to choose between these two definitions, which can both help us recognise SBCD in action, but it quickly turns out that they are open to a wide variety of interpretations.

In many cases they point to the isolated efforts of individual teachers to introduce new teaching materials or methods into their classrooms - usually to offer pupils something different from the centrally monitored ideas of what is good for them. Sometimes, often

1) M. Skilbeck, 1974, 'School-Based Curriculum Development and Teacher Educational Policy', OECD, mimeographed.

2) A.I. Olivier, 1965, Curriculum Improvement, Dodd Mead and Co.

3) A.M. Furumark, 1973, 'A Swedish Approach to Decentralised Curriculum Innovation', OECD/CERI, mimeographed.

4) I. McMullen, 1973, 'School-Based Curriculum Development', CERI/OECD, mimeographed.

under the drive of a foresighted Headmaster, an entire school has been caught up in this kind of reform: curriculum content has been up-dated, teaching styles renovated, authority relationships amended.

Occasionally the movement has had an even broader impact, with teams of experts brought in to help educational authorities transform the traditionally recipient role of the school. Rather than tackling what goes on in the classroom they have tended to concentrate on getting the school to participate more actively, along with the other groups involved, in the whole range of decision-making procedures affecting education at all levels.

Such instances of change have multiplied during the past few years, filling the pages of educational journals or providing material for the latest radical book on schooling. Some of the innovations have been minor, some have been important, some have remained isolated cases, while others have gathered enough momentum to influence the educational policies of an entire country.

This diversity in aim, scope and results makes it difficult to sort out the information and grasp what is happening. We begin to realise that the two definitions of SBCD are perhaps too all-embracing, and therefore vague, to provide a clear operational yardstick with which to identify, study and assess the phenomenon. Yet this impression is only apparent. A closer look at actual cases reveals that, far from being all-embracing, these ways of defining SBCD provide only a partial understanding of the processes in question.

A.M. Furumark and I. McMullen, as well as M. Skilbeck with his reference to Socrates, focus their attention on the school and on what goes on <u>within</u> it: the design, planning and putting into practice of innovative activity as such, mainly by school staff. But this is only part of the story. The school lives in conjunction with a number of other institutions, some educational some not - Ministries of Education, Local Education Authorities, Teacher Unions, Parents Associations, State or Regional Budgetary Commissions, political parties, the mass media and so on. From this complicated network of authorities, hierarchies and social relationships the school derives power, and they in their turn expect a response. It is therefore essential, if innovative activities are to take root and flourish within the school, to have full agreement on where the line should be drawn <u>between</u> the autonomy and responsibility of the school and that of these other bodies. After all, it was the lack of such recognition and support that darned Socrates: accusing him of impiety and corruption of youth, the authorities put him to death.

A more comprehensive definition of School-Based Curriculum Development is needed to take into account a dimension equally important but qualitatively different from SBCD as such, a definition

that considers all the factors, and especially the conditions, that make SBCD possible. Thus, 'SBCD is here taken to indicate any process which - on the basis of schcol-initiated activity or school demands regarding curricula - brings about a redistribution of power, responsibilities and control between central and local educational authorities, with the schools acquiring the legal and administrative autonomy and the professional authority enabling them to manage their own process of development'.

This definition of SBCD focuses on organisational changes within the educational network rather than on the production of new curriculum material, and invokes the same arguments as lie behind the call for more active and direct school participation in educational innovation.(1)

These arguments are broadly as follows:

a) In recent times there have been repeated demands for increased autonomy and participation in the management of just about every sector of public life - and the schools have clamoured just as loudly as the others.

b) Evidence has accumulated that centrally-geared curriculum development programmes have been by and large less successful than expected; even when actually put into practice, it is often a curtailed or modified version of the original design that finds its way into school life.(2) Such outcomes have been generally ascribed to technical and individual factors involved in the innovative process:

   i) at the technical level, a gap between theory and practice: centrally planned CD is necessarily abstract and cannot consider the specific characteristics of each school affected. Thus many schools find it hard to put such demands into practice.

   ii) on the individual level, setbacks have been put down to misunderstanding or lack of motivation, or both, on the part of the teaching staff called into action.

The approach to SBCD in this report should in principle provide answers to these two basic demands where educational change is concerned: increased participation and better implementation.

A policy of encouragement, together with the decentralisation of responsibilities, would set in motion a much-needed dialogue

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1) For an extensive discussion on this issue, see: OECD, 1973, Case Studies of Educational Innovation, Vol. IV, Chapter 8, pp.227-240, and Chapter 9, pp.241-264.

2) See, for instance, M. Barbaglio, M. Dei, (1969) Le Vestali Della Classe Media, Il Mulino, pp.78-85, or E.M. Regar, K.A. Leithwood (1974) Effecting Curriculum Changes. Research in Education, Series 4, The Ontario Institute for Studies in Education.

between schools and the central education authorities. Reform programmes designed at the local level are bound to be a more realistic reflection of immediate needs and thus better suited to local circumstances. Moreover, when the local staff has had a major hand in shaping them they are more likely to arouse interest, thus providing a better guarantee that individuals involved in the process of change will fully understand what they are about and be committed to making it a success.

But before we look into the implications and consequences of our approach to SBCD and outline a remedial strategy to bring about desired changes in an otherwise resistant milieu, a word of explanation: though many bodies and institutions not strictly concerned with education are clearly relevant to a realistic assessment of educational initiatives and their impact, this report will nevertheless concentrate mainly on schools and educational structures. The influence of non-educational interlocutors on the innovative processes will be considered explicitly only when it is essential to the understanding of the dynamics of the events. When this is not so, its presence should just be taken for granted.

In short, the following premises will underlie our discussion:

1. The school is a human social institution. It engages in complex transactions with the environment, exchanging ideas, resources and people through a network of communications systems. The ability of a school to respond rather than merely adjust uncritically to the demands of this environment depends upon its reasonable freedom to build up its own curriculum on an exchange basis.
2. The curriculum is, for the learner and the teacher, made up of experiences; these should be experiences of value, developed by the teacher and the learner together from a close and sympathetic understanding of the learner's needs and characteristics as a learner. Such experiences cannot reach their full educational potential without freedom for both teachers and pupils.
3. School-Based Curriculum Development does not preclude curriculum development at levels other than the school, nor does it refuse a creative role to all except teachers and pupils. One of the major tasks for policy-makers is to help allocate types of curriculum decision to different agencies and interests from local to national level, and to design the necessary structures for sustaining curriculum development at all levels.

## 2. PRACTICAL IMPLICATIONS

Looking at the process of educational change from a broader viewpoint has a number of consequences. For example, many teachers, Headmasters or schools set out to renovate the curriculum in a very creative and enterprising way; but if these remain isolated efforts in the educational world, incapable of acquiring enough force to inspire at a later stage more generalised action aimed at wider structural changes, they have little place in this discussion. The danger in neglecting these isolated cases is obvious: it is to bypass the ideas and practice of contemporary pioneers in the mould of Freinet, Freire and Neal, who have been so important in informing, influencing and guiding at least a generation of educators in many countries. Yet there is no alternative. Even successful isolated initiatives take at least a decade to make their presence felt throughout the educational world and even longer to achieve legal status and a place in official education systems. The Freinet pedagogy has only recently won broad recognition, however indirectly, by the French Educational Authorities, more than 50 years after its first appearance; Freire's educational 'cells', begun about 15 years ago in Brazil and later discontinued by the local government, are currently spreading slowly to other countries. The importance of such innovative educational programmes would have escaped any survey of SBCD articulated around the premises at work here, had the survey been done in their early stages. And yet today they are influential voices in debates about possible modes of operation for SBCD. The risk of this kind of omission is clearly an unavoidable weakness in our approach.

Another important implication of the SBCD definition adopted here concerns the amount of attention devoted in this report to the definition of specific curriculum objectives. As the ultimate goal is the introduction of <u>institutionalised change</u> in the school system, i.e. the creation of the conditions for SBCD to occur, the establishment of such educational objectives (e.g. à la Bloom or à la Gagné) becomes less important in the general analysis and will therefore receive little attention in our discussion: they are a matter of tactics rather than of strategy. Our definition implies that the initial call for curriculum innovation, even though it sets the change process in motion, is simply a means, as it were, to bring about a vertical and horizontal dialogue leading to a redistribution of power and responsibility. This dynamic equilibrium between the school and its surrounding structures is the real aim. The curriculum design itself, which reflects a temporary school situation, is of rather less importance. Its details are bound to be modified as knowledge progresses or the educational demands of society evolve but this new dynamism and exchange is what will hopefully remain to infuse the system as a whole.

When SBCD is seen as involving a large number of schools and individuals, attention has to turn to the usual problems of large-scale organisations and administrative changes. Priority, therefore, must go to questions like the following four.

1. What is a change process? How can it be induced and sustained in organisations such as schools?

All change processes go through a number of phases or stages. First, the loosening of existing attitudes and behaviour patterns, so that they can be looked at afresh and critically compared, thus creating a certain open-mindedness and readiness to change; next, the change process itself, when new approaches are developed, tried out and if necessary adjusted; lastly, a consolidatory phase when the new ways of thinking and of doing things become accepted. In practice, this very simplified 3-stage model of 'un-freezing', change, and 'reinforcing the new' will have many sub-stages, overcome delays and, of course, sometimes come to nothing. But it has the advantage of drawing attention to some of the processes and requirements for change in an organisation like the school. And it also suggests some important related issues. For instance, how should we evaluate the final outcome? Are we interested in the size or magnitude of the change? its direction and diffusion? and what about the rate of change: rapid and abrupt, or gradual? Will rapid change increase conflict and resistance? And then, how permanent, how firmly established will the new approach be? Will the old ways gradually creep back? For how long should the results be monitored? Will the new approach eventually become a stepping stone to still further change? These are some of the things we should bear in mind when planning the change process, and how its results will be assessed. We need, for example, to distinguish between the sudden localised change produced, say, by a charismatic leader - which may not last long after he leaves the scene - and participatory change on a broader front, which may or may not have a more sustained impact.

Helping an organisation to change is not easy. Textbooks offer many solemn guidelines, some of which we shall presently consider, but we must never forget that we are dealing with group life. Participation in an organised group gives a person a role - with rights and duties, attitudes and status - to which any proposed change could be seen as a threat. Besides its formal structure, an organisation generates informal patterns of friendship and hostility, rumours and gossip, as well as more covert lines of influence and constraint. Stable organisations have powerful norms, and bear the scars of past struggles; strangers with new ideas may well arouse fear and distrust, and be regarded as a threat to a well-established "small society".

Scientific evidence and logical argument are not enough to carry the day. There must also be concern for individual feelings and emotions, and for every aspect of group life. For change to be successful and lasting these powerful human forces must be mobilised in its support rather than left to entrench themselves in stubborn resistance.

But before we go further into the problem of change as a group activity there are a few practical aspects to be looked at.

First of all, change requires time. To rush things, or to try to fit its preparation and implementation into "working hours" is to ask for failure. Change has to be gradually chewed over, absorbed, and inwardly digested even by its firmest advocates, while others may be more than hesitant. All this takes time, in meetings and discussions, in explanation and persuasion. In many cases time will have to be found outside school hours, but teachers should not begrudge this, any more than they would skimp on laying the foundations for a house.

Change is also likely to generate conflict, on several levels. On the surface, there will be open disagreement about the pace, content, or structure of the proposed reforms, but underneath there will also be struggles for domination, battles over rights and territories, quarrels about preferment and promotion; and then problems of prestige, jealousy and misunderstanding. Such conflicts can quickly divide groups into two opposing camps and thwart dialogue; mismanaged, they can lead to strikes, dismissals, injurious publicity and complete breakdown.

Needless to say, some people enjoy fishing in troubled waters: when a school, for instance, is going through a process of reform, some of its staff members will exploit this situation in order to settle old scores, enhance their own position, or simply because they like the stimulus of a social "game". Learning to handle or live with all such conflicts is an important part of the change process.

Change will also increase the need for communication - in this case both within the school itself, and between the school and its environment. New ways of circulating information might well be needed, and existing channels will have to be improved, both to and from the other bodies involved. The sheer volume of this additional material can create overload conditions leading to delays, misinformation, and unintended conflict. Yet it is very important for everyone to be drawn in as far as possible. No one should be excluded. Special care will have to be taken to see that everyone is fully informed and consulted: it is only too easy for people to get the feeling that change is being foisted upon them, that no one has sought their views, or that others have been informed sooner or more fully. Quite possibly a completely fresh look at the methods of communication within the organisation will have to be part and parcel of the change.

For each conscious, deliberate change we should be able to specify objectives and expectations: the benefits we look forward to, for whom, by what means, and how soon. These objectives may well be of several kinds: material, organisational, emotional, cognitive - with benefits to the children, or to the teachers, or to future employers, or to "efficiency", and so on. If, say, we propose to transform the traditional classroom structure into some kind of "open group" arrangement, then we should state what we hope to achieve: faster cognitive learning by the children? growing autonomy and ability to make choices? more pleasant working conditions for the teachers? opportunities to break down traditional subject barriers? fewer stress symptoms among the children? reduced truancy rates? or what? Obviously, some objectives will have to be stated much more subtly, and given careful thought before they can be sufficiently clarified.

Some statement of objectives is also necessary because each change should be regarded, to some extent, as an experiment, and should have a built-in procedure for evaluation. Without evaluation, it becomes impossible to say whether or not the change has been "successful", what effects, intended or otherwise, it has produced, what "worked" and what did not work, and how the process could be repeated elsewhere. We shall return to the question of evaluation in Section 5 below.

2. What factors govern the ability of schools, and individuals within schools, to cope with change?

This question brings us back to change as a group activity.

There are many ways of trying to produce change: one can call in experts, mobilise the mass media, issue new directives, alter the organisational structures, one can rely on the exhortation of leaders, the encouragement of "good" examples, or the influence of teacher education - to mention but some of the possibilities. Each has its strengths and weaknesses, and suits different circumstances. We have, once again, to consider our objectives: how broad is the change to be? who will be primarily affected? how big is the shift? how long should it last?

For change within a smallish organisation such as a school, group decision is often very effective.(1) After the necessary groundwork - gathering ideas, listing tentative objectives, circulating information, providing time and working papers for full discussion, coping with various conflicts and potential opposition - those primarily involved get together for a meeting or series of

1) See, for example: Dorwin Cartwright "Achieving Change in People: Some Applications of Group Dynamics Theory", Human Relations, Vol.IV (1951), pp. 381-393.

meetings with the aim of reaching a whole-hearted agreement on what will be done. Creating the right atmosphere for a genuine group decision rather than merely superficial agreement requires great social skill and an understanding of group dynamics, but the advantages of this method are real. For a start, group commitment makes the whole change less threatening: it is not a thing required of some members with the rest watching - it is a shared, collective risk. It is also easier, as a rule, to get a group to agree collectively to change established norms and practices than to go in for piecemeal change. Leaders will worry less about the effect of innovation on their position and prestige if the group as a whole is changing and opponents will have been listened to. Above all, the change, now a new norm for the group, becomes self-monitoring: anyone who does not change, or shows sign of edging back to old ways will attract attention and group reaction. This effect will need to be reinforced by a series of group meetings to discuss progress. There will be setbacks, of course, but once the process is properly under way the new way of doing things will soon become "the usual routine", with "old habits" seen as eccentric and reactionary exceptions. If the group feels responsible for the change, that the change reflects its own ideas and information, its improvements and compromises, and its commitment to go ahead, setbacks and conflicts are much more likely to be overcome: the process will not become divisive, the general climate will be more favourable to further change, and the change itself will be stable.

By contrast, tackling the problem on an individual level - for instance, special training for selected teachers - is likely to produce more conflicts and a less sustained impact once these teachers are back at their schools introducing what they have learnt. The whole emphasis in SBCD is on the group, and on the importance of the group to the individual.

Although all this may sound like fighting for the self-evident - and begging too many questions - this is not really the case. To the average person, the passage from complaints and a feeling of general dissatisfaction to organised thinking and articulation of needs, and then on to proposed changes, is not easy. All sorts of knowledge is required: about administrative and legal constraints, about the rights and obligations of educational authorities, about pupils and their parents, about the role of trade unions - not to mention the many subtle problems of individual personality and motive. In short, there is no firm and simple recipe suitable for all occasions; basic principles can be stated, but much will depend upon the sustained care and insight of all participants.

Any attempted change will come up against resistance. Rather than allow confrontation and conflict, it is vitally important to



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discover its origin and nature. Some resistance will be personal, some to do with organisation or structure. It is normal for suggested change to arouse fear in some individuals - of being different, of criticism, of not being able to cope, of failure: much safer not to change, or to shift the responsibility on to a higher level. Change is risky, fraught with potential threats to a person's position and prestige, and to his usual way of doing things. Such fears are not likely to be expressed, except as anger, or voluble opposition. Handling this kind of situation is a delicate matter: we must refute opposing arguments, but never lose sight of the individual's unspoken fears, vested interests, territorial and status anxieties, his desire to settle old scores or to seek personal advancement. These problems, even if correctly diagnosed, cannot always be solved, but helpful understanding and recognition that these are real and important issues can reduce their motivating force. In due course, the dynamics of the group decision process will also help smooth the way. It is important throughout to take as many members of the group as possible through the change process as a group; otherwise, it is likely to be seen as a cumbersome burden, at best given little chance to survive, at worst accepted as another imposition to add to the spoken or unspoken list of personal grievances.

This brings us directly to the next question:

3. Can change agents be identified and trained to act as members of organisational development teams?

Books and articles abound with advice and instructions for change agents, but the essence of SBCD is that change should emerge from within the school rather than be imported. Once SBCD is on its feet there should be no need for change agents, since the group within the school will see to whatever needs to be done through the existing leadership structure. However, change agents may well prove useful as part of a transitional strategy to transform a centralised system. But SBCD change agents, unlike most others, will not only steer through specific reforms (such as a new method of teaching mathematics, or bringing parents into the classroom); their real job will be to find new ways of introducing change, of whatever kind. As the change will be based on the school and implemented not from above but through a series of group decisions, their most important skill will be their ability to foster a social climate that makes genuine group decisions possible.

The most recognisable example of a change agent is the "leading enthusiast" found at the heart of almost all locally initiated educational innovations. Obviously there is little need to root out and train people like this, for they are quite capable of making themselves fully informed and widely known.

Our question refers more to potential change agents who, once identified, could be properly trained to lead or back up local change processes. Once the broad lines of a new approach have been clarified and the various tasks distinguished, a decision has to be made: should the change agents be recruited from among teachers on the spot? In other words, is it better to appoint professional change agents as a more or less permanent new feature of the school or would it be just as effective to train certain of the school staff? Clearly these two methods, by no means mutually exclusive, call for different structural and administrative solutions. As for training, it is more important to have a definite idea of the specific tasks likely to arise when they actually work with groups of school staff than to lay down how applicants should be chosen and their training carried out. For example, a body of evidence, from both ordinary classroom practice and scientific experiment, points to the need for different personal qualities and skills for different kinds of task and group.(1) Roughly put, unstructured tasks call for leaders more in tune with the socio-emotional needs of the group whereas complex structured tasks call for leaders who can put aside such needs to concentrate on the work in hand. In practice, the situation is complicated by another important factor: will members of the group accept the change agent's leadership? If so, all well and good; but if there is reluctance group viability will depend on his "socio-emotional" abilities regardless of the task. In other words, we cannot simply create change agents without paying heed to how they will be accepted in the human environment they are expected to stimulate.

Studies on organisational change include recommendations concerning the content and objectives of training courses for these people. A particularly useful contribution comes from D. Kahneman and E.O. Schild,(2) who spell out clearly the essential characteristics of such programmes. Adapting these ideas to the school setting is straightforward, provided one bears in mind that each school should be treated as a "small society" in terms of its dynamics, and that the need for change agents, as SBCD becomes more autonomous, should gradually diminish.

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1) S. Verba (1966) 'Leadership: Affective and Instrumental', in Backman & Secord (eds.) Problems in Social Psychology.
F.E. Fiedler (1968) 'Personality and Situational Determinants of Leadership Effectiveness', in Cartwright & Zander (eds.) Group Dynamics: Research and Theory.

2) D. Kahneman and E.O. Schild 'Training Agents of Social Change in Israel: Definition of Objectives and a Training Approach', Human Organization, Vol. XXV, No. 1, 1966, pp. 71-77.

4. If change is the norm, how can a balance be preserved between stability and change?

This fundamental question is perhaps the most important and most difficult practical problem to solve when School-Based Curriculum Development is seen in terms of institutionalised change. It touches the very heart of what education is about and for whom - and there exists no general answer. Solutions will reflect each country's own priorities regarding access to education, schooling as a means to encourage social mobility, the relationship or subordination of schools to the job market. Moreover, other issues will have to be tackled beforehand: certification, pupil assessment, nationwide school-leaving exams. Only when these preliminary questions have found answers will we know how much diversity of schools can be allowed and to what extent standards can be permitted to vary; in short, what can be changed and what has to be kept. All aspects of education are caught up here, and a lot of basic rethinking will have to be done. The balance between change and stability, so important where SBCD is concerned, is in fact an issue in its own right, more or less independent of the modalities through which educational change might be introduced.

Clearly, the matter is extremely complex, but the diversity and occasional ambivalence of solutions can at least provide a useful understanding of how far the SBCD process can go. For instance, what existing legal and administrative constraints would directly affect SBCD processes? what kind of modifications is SBCD likely to impose, if properly introduced? We must now look at this in more detail.

## 3. SBCD AND ITS CONSTRAINTS

SBCD has several theoretical advantages over centrally planned CD:

i) it can easily adjust to specific needs of local schools and pupils,
ii) it is easier to move on from R & D to implementation when both phases occur in the same environment,
iii) the teaching of certain, now increasingly important, interdisciplinary subjects can be based on the local human and physical milieu,
iv) it is more likely to motivate the school staff.

But there are also a number of general problems.

Each country has its own series of laws and administrative provisions. Some of these would ease the way for SBCD but others would form serious obstacles. Our discussion is necessarily schematic and

non-exhaustive for there are too many national differences for us to examine them all. This said, we can at least outline some of the difficulties that will crop up:

i) Constraints inherent in the legislative and administrative arrangements for education in each country. This covers not only the amount of political interest in and control over education, and its accompanying administrative and supervisory measures, but also the training, attitudes and expectations of the people concerned.

ii) Constraints within the school stemming from how it is organised and run; this includes the attitudes, expectations and competence of the staff, pupils and, to some extent, their parents.

iii) Constraints related to external and internal assessment systems and to the expectations of higher education and industry; the nature and availability of curriculum materials; the general climate of opinion.

## i) Some legislative, administrative and financial constraints

### Political constraints

Political parties in some countries take much more interest in education than their counterparts elsewhere. In Sweden, for example, the inclusion of a new subject in the curriculum could be debated in parliament. Other countries might consider that only the general structure of the educational system is important enough for this. To the extent that SBCD increases the power of the school at the expense of central authorities, very close political control could be restrictive.

Perhaps more significant is the presence or absence of a strong political will for equality of opportunity, with the implication that opportunities should in fact be equal, that all students should be offered as far as possible the same educational experiences. This belief would be directly challenged by the introduction of full-scale SBCD. In such systems SBCD is often limited to certain areas of the curriculum.

The extent to which the political control and administration is decentralised - discussed in the next section - affects the nature of possible political constraints. When this becomes truly local, as in the U.K. and the U.S.A., parental opposition to certain aspects of SBCD often triggers political efforts to suppress the new development and restrict the school's authority.

## Administrative and supervisory constraints

Whether education is administered and controlled centrally or locally affects the nature of its influence on SBCD. In most countries with tight administrative control of the curriculum there is reluctance to abandon power, and the further the administration is from the school the more threatening this prospect seems. Even when autonomy has been granted for the curriculum - or some part of it - the supervisory system will quite possibly be employed to make sure that this autonomy does not overstep central guidelines.

As it is not possible to enumerate all the constraints developed by different administration systems, we will simply make a few general points. First, it matters little if the central control is "national" or "provincial": either way the centre of control is comparatively remote from the schools, and the main constraint will be the reluctance of both politicians and administrators to abandon control.

Where control is generally local, as in the U.K. and U.S.A., abandonment of control may be less of a problem than local pressures. Creating the necessary conditions for SBCD, for example, might be fairly straightforward but parents might attack certain specific results of the new approach.

## Legal constraints

Every country has legal provisions affecting education and these sometimes go into extreme detail,e.g. laying down the hours to be spent on each subject, or forbidding children to leave the premises during school hours. Clearly such restrictions are an obstacle, and it is surprising to find some countries introducing educational change without modifying the relevant laws.

## Financial constraints

There are two major financial constraints to SBCD. First of all the process itself is expensive: it involves teacher-time spent on other than teaching activities, new materials and support services outside the school. The amount of money needed is often underestimated when the conditions are created to permit SBCD.

But SBCD also implies a certain flexibility when the financial cake is divided up within the school. The usual custom is to tie funds firmly to "headings" - so much for books, for teachers, for ancillary staff, etc. The right to transfer sums of money from one heading to another is essential to SBCD.

The attitudes and expectations of administrative and supervisory personnel

The day-to-day operation of SBCD is clearly affected by the willingness of officials to give it their personal support. Even when the law has given its go-ahead the way in which the individual administrator or supervisor interprets it will be of great importance. By and large, administrators in Member countries are either recruited from the teaching profession, as in France, or are career administrators, often with law backgrounds, as in Germany. Which is the more likely to produce opposition? Those from education have reached their positions thanks to the existing system, and they may well be committed to it. On the other hand they may have sufficient educational insight to see the need for change. Those from other backgrounds will, like the general public, tend to see education as they experienced it; understanding it perhaps less, they may be more reluctant to risk change

ii) Constraints within the school

The formal structures

Apart from a few experimental schools, the main figure in the administration of schools is the Head. Yet his responsibilities vary greatly: at their lowest they may be the allocation of staff to teaching groups, their supervision and the general discipline of the school - though in France even this is done by a separate system. At their greatest, probably in certain local authority areas of the U.K., the Head decides on the aims of the school, its curriculum and the appointment of teaching staff as well as their promotion within the school. Such Heads may be reluctant to delegate their control of the curriculum, but different internal power structures such as "collegiate" or genuine "participatory" control may provide a solution. Collegiate control, with power in the hands of the professional staff, can in fact prove conservative, reflecting as it does the general conservatism of teachers. Participatory control, when students and perhaps parents are included in the decision-making process, is not necessarily better: as we shall see, the average parents and students are often also conservative, at least in relation to the curriculum. But when schools have very little autonomy the introduction of SBCD requires new structures, and this is a problem in itself. Recently many systems have introduced some form - and often more form than substance - of local control for schools. In many cases this is a body on which teachers, parents, the local community and the education authorities are represented - and sometimes students too. These bodies are mainly advisory and what power they have is confined to minor matters. Potentially, however, they

could be a fertile base for decisions on SBCD: all interested parties could be drawn in to discuss at least the main lines of a local SBCD project.

Each country has developed its own particular way of organising schools. Many have separate departments for each subject, often directed by a head of department who receives a higher salary or is given release from class teaching. In some countries a "pastoral system", aimed to look after the problems of individual students, superimposes a separate set of responsibilities, creating a complicated and often entrenched hierarchy similar to that in a bureaucracy.(1) Each "head" will jealously defend his rights and privileges against other departments and his own 'junior' staff. Any attempt, for instance, to divert funds from his department to help development elsewhere would be fiercely resisted. Clearly this kind of situation creates obstacles. But, for reasons to be discussed in a later section, even a 'collegiate' type of organisation, in which decisions are taken by the professional staff, may be strongly against such change.

The great majority of head teachers and heads of departments have had no training in SBCD, yet logic makes them its potential leaders. In fact, the way power is distributed in schools makes it difficult to envisage SBCD without their leadership - in name at least. Some systems have created new posts, such as 'Director of Studies', but if these "directors" are appointed from outside they will inevitably face hostility; if from within, envy. Though all teachers involved in SBCD will need retraining, the main effort should respect the hierarchy.

Teachers

Without doubt the success of SBCD will depend on the teachers - on their readiness to co-operate and their capacity to do it well. This is why we must guard against exaggerated optimism: some of SBCD's exponents base their hopes on exceptional teachers. SBCD pushes teachers towards the unknown, and teachers, just like everybody else, prefer familiar ground. There are new techniques and attitudes to be mastered, and none of that self-assurance they are wont to derive from the existing assessment systems. But teachers are also a special case: control of the class - the authority of one person over a mob - is essential to them.(2) They are in continual fear of losing it, particularly those in the secondary schools.

1) See, for instance: T. McMullen (1973) 'Organisation and Relationships within the School' in Creativity of the School, OECD/CERI, pp. 62-83.

2) For a discussion on classroom control see, for instance: H.A. Averch et al. (1972), How Effective is Schooling? Report prepared for the President's Commission on School Finance, Rand Corporation, pp. 136-140.

Any change in their relationship with pupils is looked upon with very suspicious eyes - and this goes naturally for SBCD. To persuade the mass of teachers to accept the responsibilities and risks of SBCD will not be easy. But even if this can be done, will teachers be able to make it work?

Most Member countries have not yet begun to provide systematic training in curriculum development. It has never been the custom. Indeed, it is a hard job to find this kind of course anywhere except in the United States - and even there it played little part in the curriculum reform movement of the fifties and sixties. Despite this, many teachers have seen what was wrong and picked up for themselves the necessary understanding and skills from their classroom experience. Teacher education policy must begin by recognising that more and more teachers want curriculum reform and that this reform calls for a high degree of competence and dedication. But before a strategy is worked out and resources allocated to fill in the gaps, the future responsibilities, roles and relationships of teachers must be clarified. And the lesson learned from attempts to disseminate centrally planned curriculum development must not be forgotten: you cannot simply rely on a campaign of information and persuasion, as if you were advertising soap or trying to win an election.

New teacher training programmes will have to be designed but this is certainly not the only problem. The concept of SBCD has such radical long-term implications for schools and their power-relationships with other social bodies that every stage of the teacher training process must be re-examined, from initial selection to final certification.

Since the teacher's idea of himself, his motivation and his professional commitment are all involved, the selection process should look for qualities in line with the kind of professionalism outlined in this paper. Present procedures are very inadequate, nor can we expect them to show a lot of improvement in the years ahead. A more practical attitude is to accept that selection for initial training is not a scientific process at all and that the committed teachers we need will eventually select themselves. Since, in the U.K. at least, a substantial proportion of those trained to teach seem to have left the profession within five years of qualifying, it may be better to seek out the potential curriculum developer among those who stay on, and who have become career teachers by their late twenties. The younger, more mobile and less committed teachers would have their place on the curriculum development team under a more experienced member of the staff. This suggests a corporate approach to curriculum planning, which could be defended on many other counts than expediency alone, and a form of training that prepares the young

teacher for group decisions, group assessment committee work and so forth - quite different from the one man and his class tradition.

Initial teacher training cannot distinguish future drop-outs from future leaders. Thus, all trainees should go through courses and experiences that get to the roots of curriculum development and stress the team-based role of the young teacher - something quite distinct from yet another abstract body of theoretical knowledge about an anonymous educational system. Curriculum development should be seen as a practical task they have to perform in training because it is the kind of task they will later perform in their schools. With this focus, relevant theoretical knowledge can be built around a core of practical experience. Because school-based curriculum development is centred on the teacher, this approach to curriculum theory and to educational studies in general can be a most powerful means of engaging a student-teacher's interest. Indeed, the very motivations, skills and resourcefulness that are vital to effective school-based curriculum development will probably begin to emerge within future training programmes.

Though much can be done in the pre-service course, student teachers cannot be expected to feel a strong need for systematic training in curriculum development. They are much more concerned about their self-image, ill-disciplined classes and how to survive once they start work. Experienced teachers are more likely to take interest in the more practical concepts and techniques of curriculum development - and in its underlying philosophy too, despite their disenchantment with some aspects of teaching and schools. This suggests that teacher education for school-based curriculum development should concentrate on the post-experience or in-service stage of training. By this time the teacher has become a stable member of the profession; many of his career lines have emerged, and he can perceive more clearly than the trainee the practical opportunities and constraints affecting any work he may undertake in curriculum development.

In-service training is directly linked to two other factors that are essential to SBCD: the 'change climate' of the school and the 'change-mindedness' of its teachers. The connection could be pinpointed by asking 'How should or could in-service training activities help bring this about?'

It is no accident that the question is put in terms of in-service and not pre-service education. As a matter of fact, there is a body of evidence to show that the 'progressive' attitudes young teachers have harvested from their pre-service training do not live long once active work actually starts. It is worth quoting what A. Morrison and Dr. McIntire have to say in their book Teachers

and Teaching.(1)

> Almost every relevant investigation, whatever the instrument used, has found that the changes in expressed attitudes during training are followed by changes in the opposite direction during the first year of teaching... One explanation of these changes in attitude with their subsequent reversal may lie in the influence of different social groups on the beginning teacher.

The authors then add two other likely reasons: the new teacher's own class forces him to concentrate on immediate problems of discipline and 'experienced' members of the staff exert the pressure of their own established attitudes and implicit behaviour patterns. This is why we stress the need to continue teacher training throughout a teacher's career: we must back up the individual teacher's firm personal commitment to reform and foster an "open-minded" atmosphere by seeing that information reaches all teaching staff.

The attitudes of pupils and parents

It is often assumed that pupils would be overjoyed by SBCD, that their interest in curriculum is deep. This is not so. The majority accept the attitude of our society towards education - that it is a means to an end, and that end is a passport to further education or a good job. Not only have they little intrinsic interest in the subject, but they tend to resist strongly anything they feel might upset their chances. Though the public think otherwise, when students are given real power and are not under the influence of political minorities they are often conservative towards education - particularly towards what is taught. If SBCD is to succeed, it will certainly have to pay more careful attention to the attitudes of students.

Everything just said about students applies even more strongly to parents. Their ambitions for their children and their acceptance of the "selective" function of education is reinforced by their own past experience. They are usually suspicious of things happening in school that did not happen in their days.

iii) Some other constraints exterior to the school

Assessment

In most countries the school system has been given the job of selecting pupils for higher education and industry. Normally this is done through some form of external examination run by the administration or by other institutes, though some countries use internal examinations or assessment instead.

1) Teachers and Teaching, 2nd edition, Penguin 1973, p. 76.

This creates two obstacles for SBCD. First, both students and their parents want to do well in the assessment and therefore resist unknown quantities that may affect this. Second, higher education institutions in particular, but to some extent industry as well, demand specific curriculum subjects at specified levels. They are reluctant to accept new subjects or new combinations of subjects, and prefer either national examinations or a curriculum closely controlled by the central authorities with well supervised internal assessment.

These constraints are powerful and most attempts to innovate locally come up against them. Whether they are valid is another matter: studies of both internal and external assessment show them to be unreliable and inefficient devices for selection. Indeed their value, except in distinguishing the very able academic student from the very poor one, is extremely dubious. Yet they are widely believed to be objective and accurate, and this must be taken into account.

Curriculum materials

Except in the odd cases where SBCD can produce everything it requires, the nature and availability of suitable materials - textbooks, other printed matter, audio-visual materials, artifacts - puts constraints on what can be achieved. Most SBCD programmes need special source material, particularly where individualised or small-group methods are used; either this has to be produced to order at local centres(1) or extracted from what central Curriculum Development or commercial firms have to offer. Very often the problem is not so much whether the material can be obtained but whether it exists in a form suitable for use in the school concerned. This in turn normally implies the need for external support services to help with adapting it. Finally local material is often in particularly short supply for the subject areas selected for SBCD, and it is usually difficult to seek this out and put it into shape without the help of a support service such as a teachers' centre.

Changes in the general climate of opinion

Apart from direct political opinions a general climate of opinion as to what is important in education exists in all countries. Since the advent of the mass media this can change quite rapidly: for example, the sudden emphasis on the "accountability" of schools in the U.K. Whether or not such 'movements' have the right on their side is unimportant: they imply votes, so politicians take notice of them. The effect of the U.K. example may well be to reduce the opportunities already existing there for SBCD.

1) See, for instance: W. Greenwood (1973), 'Regional Curriculum Development through Local Teachers' Centres' in R.E. Thornbury (ed): Teachers' Centres, Darton, Longman and Todd, pp. 88-112.

Conclusion

This section has outlined the wide range of constraints that affect SBCD. The main inference is again that for an innovation to succeed an intricate tissue of factors must be changed. Outside factors, such as formal administrative practice or the informal attitudes of pupils and their parents, converge on the school. Within the school, but not entirely so, the 'teacher and pupil in the learning situation' form another focal point. Only by changing all the necessary factors can change really take place, and this goes especially for SBCD.

## 4. OPERATIONAL MODELS OF SBCD

When administrative and traditional constraints on school autonomy are loosened, it is natural to replace the emphasis on detailed planning with more general suggestions about organisation and management. It is in this spirit that two operational models for SBCD were put forward to the OECD/CERI Seminar on School-Based Curriculum Development in 1974: they are, of course, intended as guidelines for action, not as rigid formulas.

Model I: Focus on the distinction of functions(1)

It is common to start discussion of the curriculum development process with objectives. This, at any rate, is what the technical approach to educational decision-making encourages practitioners and theorists alike to do.

When we regard curriculum as experience and as communication between teacher, learner and environment, curriculum development at the school level must start, not with predetermined or abstract objectives, but with a critical appraisal of the learning situation as it exists and is perceived in the school. This is where the curriculum is to take root, this is the situation it is meant to transform, and it is here the teacher must begin his analysis. This, at any rate, is how school-based curriculum development differs from the system of importing objectives, syllabuses and learning materials from the outside and requiring pupil and teacher to adjust.

A model for curriculum development that accepts much, but not all, of the recent thinking about planned change can be outlined thus:

i) Situational analysis

Review of the change situation: analysis of factors that constitute the situation. These can be external (e.g. parental expectations,

1) M. Skilbeck, 1974, op.cit.

employer requirements, community values), or internal (e.g. teachers' attitudes and skills, pupils' abilities, school expectations, material resources).

ii) Goal formulation

The statement of goals embraces teacher and pupil actions (not necessarily manifest 'behaviour') and includes a review of what kinds of learning outcomes are expected. Goals 'derive' from the situation analysed in (i) only in the sense that they represent decisions to modify that situation in certain respects and judgments about the principal ways to do this. That is, goals imply and state preferences, values, and judgments about the future direction of educational activities.

iii) Programme building

This goes from deployment of staff and definition of roles, to the specification of means and materials required, through the design of appropriate institutional settings and fieldwork facilities.

iv) Interpretation and implementation

Problems of installing the curriculum change, e.g. possible clashes between the old and the new, resistance, confusion. A design model must anticipate these by reviewing past experience, by analysing relevant theory and research on innovation, and by imaginative forecasting.

v) Monitoring, feedback, assessment, consolidation

This implies, for instance, design of monitoring and communication systems, the preparation of assessment schedules, and the planning of the consolidation of the process.

Clearly the scope of any systematic, comprehensive inquiry the school might itself undertake along the lines suggested by stage (i) of this model is enormous. Some of the decisions will be made for it by law, decree, administrative controls or guidelines, etc.: others will come naturally to a competent professional; but many would have to await special surveys. The model attempts to outline the range of possibilities and, to some extent how they interrelate; it would be up to the local curriculum group to use this framework for mapping out a curriculum development programme for the school - or for sections of the school - proceeding only so far in certain directions (e.g. gathering information about community assumption) as was practicable. The model may be used to guide the design of a curriculum, to observe and assess curriculum systems in operation, or to assist more theoretical study of what curriculum development should be doing.

It is tempting to suppose a logical order in the five stages. Even designers sometimes fall into this trap and produce elaborate systems diagrams of the curriculum process.(1) Yet a school team may have sound practical and psychological reasons for making a start at one particular stage rather than stoically following the arrows on those increasingly complicated diagrams. In actual practice all stages might well be carried along at the same time. There is plenty of evidence that despite the enticements of the technological approach, teachers do not, in fact, proceed in a straight line from goals to evaluation.(2) The model does not insist on a means-ends analysis: it simply encourages teams or groups of curriculum developers to take into account different aspects of the process, to see curriculum development as an organic whole, and to work in a moderately systematic way.

A possible objection is that this model of school-based curriculum development seems to give excessive power to the teacher and to demote the idea of participation, for participation implies that power is spread among pupils, parents, community groups and so forth. The diagram in Figure 1 suggests how different groups and agencies might join in school-based curriculum development. Teachers can hardly monopolise the power if care is taken to clarify the roles of all involved in each type of decision. Effective school-based curriculum development relies on this kind of arrangement which, far from concentrating power in the teaching profession, might help to make education a more participatory process than it usually is at present. Of course, the distribution and sharing of responsibility themselves pose major problems: we should not be talking merely about the education of teachers but of all who are to be involved in the curriculum process. In the U.K., until relatively recently, the provision for educational administrators was grossly insufficient, and there are still many gaps. Nobody would suppose that educational resources have been adequately deployed to facilitate rational participation at all levels in the curriculum development process, a point that probably holds true of all countries.

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1) A system approach is adopted in D.S. Riddle, 'An investigation into the use of curriculum theory in the formulation of a systems model for constructing and evaluating secondary school geography curricula in England and Wales', unpublished Ph.D. thesis, University of London, 1974. The educational technology journals are full of papers applying systems concepts to the curriculum process.

2) P.H. Taylor, How Teachers Plan their Courses. London, National Foundation for Educational Research, 1970.



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Table 1

DECISION-TAKING IN THE CURRICULUM PROCESS

| Process | Agency | Role |
|---|---|---|
| Situational analysis | - Teachers, heads of school departments, school principals . . . . . | $D_1$ $D_2$ |
| | - Pupils . . . . . | $D_2$ |
| | - Parents . . . . . | $D_2$ |
| | - Consultants (local authority) . . | A |
| | (college and university) | |
| | (other schools) | |
| | (research agencies) | |
| | - Administration . . . . . | S |
| Objectives | Teachers etc. . . . . | $D_1$ |
| | Pupils . . . . . | $D_2$ |
| | Parents . . . . . | $D_2$ |
| | Consultants . . . . . | A |
| | National governments and government departments . . . . . | A |
| | Project teams . . . . . | S A $D_2$ |
| | Administration . . . . . | S |
| Design | Teachers etc. . . . . | $D_1$ |
| | Pupils . . . . . | $D_2$ |
| | Parents . . . . . | $D_2$ S A |
| | Consultants . . . . . | A |
| | Project teams . . . . . | S A $D_2$ |
| Implementation | Teachers etc. . . . . | $D_1$ |
| | Pupils . . . . . | $D_2$ |
| | Administration . . . . . | S |
| Evaluation | Teachers etc. . . . . | $D_1$ |
| | Pupils . . . . . | $D_2$ |
| | Consultants . . . . . | A |
| | Government departments . . . . . | S A |
| | Administration . . . . . | S |

Key: S = Support; A = Advice; $D_1$ = Decision; $D_2$ = Discussion.

Model II: Focus on the pupils

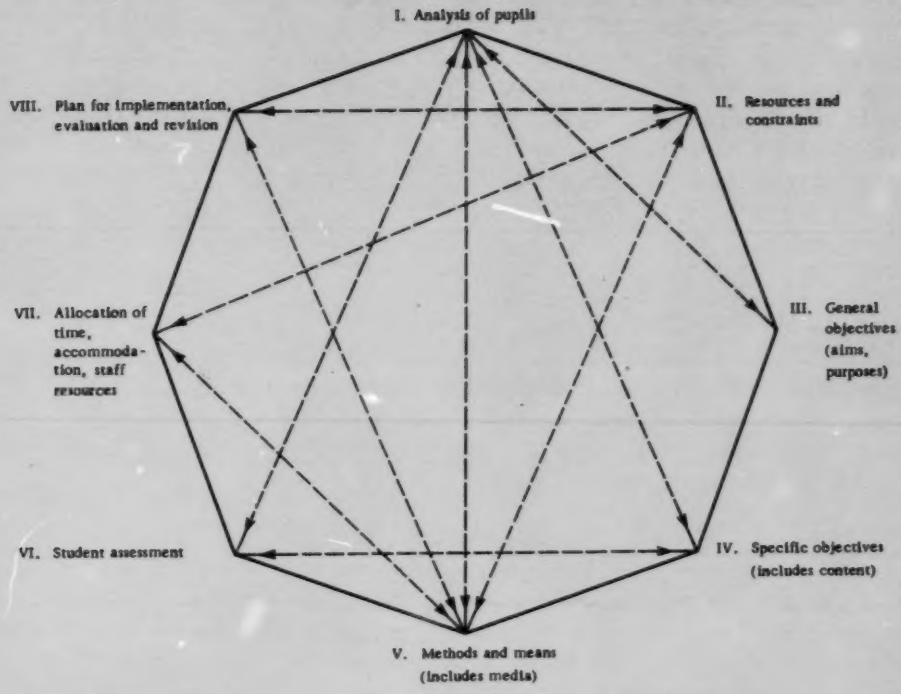
Figure 1 is a schematic representation of the stages or parts of this model. As the diagram suggests, the order followed and the point of entry are open to choice.

It seems natural, however, to start with the potential users - the pupils: what do they know already and what knowledge do they have in common? what is their presumed ability? is the group of roughly the same standard in attainments and presumed ability? given their age and social background what is likely to motivate them? how do they fare in essential skills such as reading and writing? what methods of learning are they used to? From here the logical progression is to likely resources and constraints, though these are often taken first: the number of teachers; their experience, knowledge and ability; the amount of paraprofessional or secretarial help: available printed and audio-visual materials; funds for buying materials and equipment; external restrictions and controls; accommodation and furniture; time-table flexibility; potential resources in the local community; probable reactions from other staff in the school, from inspectors, from students, from parents.

In logic - if not in practice - the next step is to determine what we hope to achieve with this particular curriculum, in short, what our objectives are. Some people find this easier to take in two parts: the general objectives, sometimes called aims or purposes, which are closely linked to the philosophy or value-system underlying the whole educational system, and the specific objectives, which state as clearly as possible what kinds of ability and attitude the student should have acquired by the end of the learning process. In most centralised countries general and specific objectives for the school curriculum, laid down with varying degrees of clarity by the central administration, are in effect decided on by a "political" body. However, for areas of the curriculum where autonomy is given, specific objectives will either be absent or merely suggested. On the other hand, decentralised countries such as the United Kingdom are facing problems in developing school curricula because of uncertainty about general objectives. In the more stable conditions of bygone society people were reasonably in agreement about values and thus about objectives. But in modern pluralistic, fast-changing society this no longer holds true, and the school is left to decide on its own values and general objectives - a monumental task.

In curriculum development specific objectives take up the most time and cause the most headaches, partly because teachers are normally absorbed in the process of teaching and hardly question its ends, and partly because theoreticians have tended to set too much

**Figure 1. DIAGRAM REPRESENTING SCHOOL-BASED CURRICULUM DEVELOPMENT**


I. Analysis of pupils
II. Resources and constraints
III. General objectives (aims, purposes)
IV. Specific objectives (includes content)
V. Methods and means (includes media)
VI. Student assessment
VII. Allocation of time, accommodation, staff resources
VIII. Plan for implementation, evaluation and revision

NOTES:

1. Normal point of entry is I but can be elsewhere.
2. Though logical progression is I-VIII by the solid line, in practice the process is complex: it may skip stages, go from one stage to another (the broken lines), start at different points.
3. The essential is that all stages should be considered at one time or another.



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weight on "behavioural" objectives - that is, objectives that can be accurately described in terms of observable changes in a student's behaviour. This might be an ideal, but how do you actually define student behaviour when the objective is 'understanding and tolerance of the ethical code of other individuals' except by choosing a set of situations and trying to gauge their probable reaction? Better, in practice, to put the accent on maximum clarity: what changes in abilities or attitudes should we hope for?

At some stage a clear idea of objectives is indispensable; but it is more likely to be gradually built up and refined throughout the development process than completely worked out at the beginning. Yet a fairly straightforward check-list of objectives is useful as a guide since most existing classifications used for "national" curriculum development are too complex at this level.

When a development group is considering objectives that directly concern its subject area (e.g. physics) it is essential not to neglect the overall objectives of the school. For instance, certain general objectives such as "development of teamwork" only make sense if in all - or most - subject areas some work is carried out in small groups. Therefore this kind of aim must be included when dealing, for example, with specific school subjects. This sort of coordination is a job for the internal administration of the school, in most cases the headmaster or director of studies.

Equally essential is the need to give rough priority to the various objectives; in some cases a differing priority for different sub-groups among the pupils. For instance, with a mixed-ability group in physics the objective 'a "quantitative" understanding of energy interchange between heat and electricity' might be a four-star objective for the academically-minded but beyond the least able sub-group, who might be expected to work towards "an understanding of the possibility of energy transfer between electricity and heat". Similarly, oral communication might be the target for a whole mixed-ability group whereas the "ability to write clearly" only for the academically motivated.

The usefulness of such a list of objectives is not that, having it, one can sit down and plan the right ways and means of attaining them. A straightforward linear approach is just not possible. Many objectives, for instance, are achieved by one process - small-group work can contribute to an understanding of principles, develop co-operative attitudes, or promote oral ability, etc.; on the other hand, a single objective - understanding a scientific principle, for instance - might rely on several processes: performing an experiment, watching a film, talking to a teacher, discussion in a group, and so forth. What we can do is to identify our main priorities, find out how they could be attained, and use our list of objectives to check

that the curriculum we are devising at least stands a reasonable chance of success: if oral ability is an objective and we find ourselves devising a curriculum in which little conversation takes place, something is wrong!

Most teachers heave a sigh of relief when they reach methods and means - this is home ground. Hence earlier stages - except perhaps constraints - tend to be neglected. A better policy is often to let a team begin at the method and means stage and then work back to the others. Teachers often find this more natural. However, as this is their daily bread, there is danger that teachers will not look beyond their own experience to the full range of possibilities; a systematic check-list can help avoid this. Methods and means is a key stage, with many alternatives to be considered before a satisfactory - if not optimal - choice can be made. Constant reference back to the previous stages is essential to avoid following the personal views of the strongest personalities in the team or jumping on whatever happens to be the current bandwagon.

Certain parts of student assessment may be controlled by external agencies, but when this is not so decisions must be made, such as: should it be comparative between students, or related only to the student's own potential? continuous, final or by some combination of the student himself with the group, the teacher, or some "neutral" person? should it be in marks, in grades, or verbal?

The last two stages deal with putting the curriculum itself into practice. Here the development team must be involved even when the brunt of responsibility lies with the internal administration. However carefully resources and constraints are weighed up it is highly likely that implementation will bring to light awkward details calling for adjustment. This stage begins with practical problems of organisation: timetable, space, staff, materials; next, general questions of timing and arrangements for staff-meetings; then decisions about the system of evaluation and how its feedback will be incorporated into whatever later revision might be needed.

This completes a brief outline of our theoretical model. But theory is not all: certain general and very important practical conditions must be met by the school or external administration. First, as it is usually impractical and wasteful to leave everything to a single teacher, we need a team - even if only a team of two - with substantial time for the work, for there is much to be done. Unless we are to rely on eager volunteers, the time they need implies a certain release from teaching, or special incentives. Secondly, a working place is needed where materials, documents, and so on can be left. Thirdly, there must be access to resources - libraries, museums and the like - and fourthly, sufficient funds for purchase of materials and travel. If curriculum materials are to be made, reprographic

facilities must be on hand. Finally, the school administration should keep in close touch with the team throughout the process so that it does not betray the general aims of the school and external authorities nor overstrain available resources.

Though it is possible for a school-based team to work on its own, outside help can be extremely useful: expert advice about content, material layout and design, or about curriculum development in general. In many cases, regional development centres can be of great assistance, as can educational advisers and inspectors, particularly in identifying possible sources of information and materials.

Though our main concern is school-based curriculum development we should remind ourselves that this ought to be part of a broader network comprising central development agencies, regional centres, local inter-school groups as well as the school itself, for it is more than probable that the best results will spring from the intelligent combination of all interested bodies.

## 5. EVALUATION OF SBCD

The need for evaluation of SBCD programmes has been emphasised already: one needs to demonstrate, to oneself and to others, that changes have produced improvements along intended lines, have been more than change for change's sake. But what exactly do we mean by 'evaluation of SBCD programmes'? The two operational models outlined in previous paragraphs provide for an evaluation stage, either at some final point or on a continuous basis throughout, but they do not say in detail what SBCD evaluation is really about. Yet can this be done without a specific context in which to set a specific episode of SBCD? Clearly the answer is not easy. SBCD, as we have seen, covers a wide range and deals with a great many aspects of the learning situation, so there is little to be gained by laying down hard-and-fast rules to cover every situation. We should do better to restrict ourselves to certain general points.

Let us begin by saying what evaluation is <u>not</u>. For example, suppose that a change has been made in a school and that at an end-of-term staff-meeting all the teachers agree that they are happy with it. This is not evaluation: it is too subjective, the satisfaction of the teachers may or may not mean that the goal has been attained and we cannot be sure that the results are due to the change rather than to something else. Would it be better, then, to show that more pupils won technical college places or that the truancy had gone down, compared to previous years? Not really; the changes might be too small to be significant, or they might be a freak result because the year-group happened to be exceptionally small or

bright, or the shift might be genuine enough, but due to factors unrelated to SBCD. In considering evaluation, then, we should be thinking along two lines: first, how can we show objectively that things have moved in the intended direction? And second, how can we demonstrate that these effects are due to SBCD and not to other influences?

This is more easily said than done. One way out might be to leave it to the professionals, to expert educational researchers who have the knowledge, facilities and finance to do the job well. Moreover, they could work with a large number of schools, perhaps in several countries, and produce findings which could have a widespread application. We have in mind, for example, the IEA series of studies in the evaluation of educational achievement covering such diverse subjects as Science, Literature, Civic Education, Mathematics, etc. in many countries.

Yet evaluators are not usually innovators, and large-scale studies make it difficult to get to know any one school well. So there remains an important role for small-scale school-based evaluation, provided it can arrive at an acceptable compromise between involvement in innovation and the demands of objective research.

When should evaluation begin? Here there can be only one answer: at or before the start of SBCD. If changes are to be introduced, we need a good measure of the starting point. It is no good buckling to after the change has taken place; by then it will be too late for a proper standard of comparison.

If evaluation is built into the change from the very beginning, it will also help clarify objectives. This is an additional benefit, for the clarification of both overt and latent goals is probably the most important single phase in SBCD, while without clearly stated goals little can be evaluated. Many projects have come to grief because this problem has not been foreseen.

Who is to be evaluated? Apart from the pupils directly affected by any change, the need for comparison makes it important to have control groups. For example, suppose we are trying out a new method of teaching arithmetic, and that a standardised test at the end of the year shows that the pupils score higher on average than they did at the beginning. This does not prove that the new method is superior, for a comparable class taught by an older method will also gain and besides, the children would probably do a little better on the test even without any formal teaching because they are a year older. To prove the value of the new method we would have to show that the gains among the SBCD-group significantly exceed the gains among a comparable group taught by more traditional methods; both groups would have to be tested at the beginning of the experiment, as well as at the end.

This is probably as much as can be expected from school-based evaluation, but ideally other factors ought to be considered. For example, the superiority (if any) of the new method may be due less to the method itself than to the talents of an individual teacher, or to special efforts by the children because they are taking part in an experiment. In educational research it is only too easy to obtain 'false positives', i.e. to attribute causal significance to one factor, when actually the observed effects are due to another.

Who should carry out the evaluation? There is a range of possible answers to this question. It would be nice to think that evaluation could be left to the SBCD team but this may be ruled out, not only for reasons of skill or pressure of work, but also in order to ensure objectivity. Complete objectivity is, of course, impossible, but it is best to avoid the dangers of self-evaluation at least by setting up an evaluation team quite distinct from the SBCD one. This might include other teachers, pupils, parents, inspectors, staff of local colleges and, perhaps, an expert consultant.

If an innovation spreads to a number of schools, several evaluation teams could function in parallel and produce comparative findings of even greater value, showing how local factors influence the new approach.

What should be assessed or measured? This depends on the intended goals. With cognitive goals, achievement tests or independently marked examination results should prove sufficiently reliable to show the effects of change, but test papers set by teachers should be avoided, for they tend to be less dependable and too influenced by the course contents. But non-cognitive objectives such as changes in attitudes or in group behaviour will raise technical problems - designing the relevant scales, questionnaires, observation schedules, etc. It is important that teachers should not get discouraged by these difficulties, nor should they assume that such intangibles cannot be measured - they can. But the schools will have to call for outside help from educational researchers, academics, lecturers at education colleges, or market researchers. There are also some very helpful textbooks on this subject.

In many ways, socio-emotional changes are even more important than changes in knowledge or skills, and every effort should be made to define and measure them.

How long should evaluation last? Some SBCD programmes aim for rapid change, others for more long-term effects and the period of evaluation will naturally reflect the kind of approach chosen. This said, two things should be borne in mind: first, it is often very useful to conduct evaluation at several intermediate points in time (not only at the beginning and at the end); second, it is important to carry out some evaluation well beyond the experimental period to see whether the effects are long-lasting, or not.


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In this first part of the report the case for School-Based Curriculum Development has been presented, it being derived from a variety of sources ranging from common sense to hard theory, and filtered through everyday classroom practice. This gives an idea of what SBCD may be expected to be, and what its implications and constraints are once we accept its broad definition in terms of institutional change. In what follows we come down to the essentially practical and examine how SBCD is interpreted and brought to life in Member countries; how the facts compare with expectations, and how theory is embodied in practice, and practice is enriched by its contact with a more general frame of reference.

Part II

CASE STUDIES

## INTRODUCTION

The case studies presented here have been compiled by experts based in various Member countries; they illustrate local examples of school innovation, and show how SBCD, as defined at the beginning of this report, can take place within the national contexts and is influenced by different legal, political and social frameworks.

The range of countries chosen reflects the following intentions:

- To offer, overall, a balanced representation of 'centralised' and 'non-centralised' education systems(1);
- To arrive at a balanced representation of detailed, in-depth discussions of single SBCD experiments and studies surveying SBCD activities throughout an entire country. A further requirement here has been to report two types of activity for detailed examples of SBCD: (i) in its purest meaning, i.e. developed in schools, and (ii) SBCD introduced to schools through various support agencies at both national and local levels.

The choice of these particular guidelines has been prompted by a number of obvious considerations. SBCD, as defined in this report, involves *inter alia* changes in the structural distribution of decision-making power in the education system. Thus it is to be expected that the implementation of SBCD programmes might demand different pre-requisites and lead to different consequences depending on the existing degree of the distribution of such power between the centre and the periphery of the education system. Examples of SBCD in the two broad categories of the education system mentioned before are essential if the varied and complex possibilities of SBCD are to be fully understood.

A further guiding principle has been the attempt to illustrate situations where SBCD programmes are likely to be faced with different degrees of "resistance to change". Insofar as this can be seen as correlated with the rigidity of the education system or its "centralisation", much of this objective is achieved by the first criteria adopted.

1) For more detailed discussion of the meaning of these groupings, and an indication of the countries usually ascribed to one or the other category, see: OECD/CERI *Handbook of Curriculum Development*, 1975, pp. 16-27.

In order to avoid sweeping categorisations, however, it was also decided to report both country surveys of SBCD and detailed examples of such activities, with the aim of arriving at an impression of the particular country's "openness to change" with respect to education, as well as providing the hard data on the detailed modes whereby SBCD programmes can be brought into existence.

In the light of this, and as a rule-of-thumb guide, the following table indicates the categories into which the various case studies could be considered to fall. The discussion of the studies individually and cross-comparative analysis will follow in Part III.

| | Country surveys of SBCD | Single SBCD experiments | |
|---|---|---|---|
| | | School-based | Support centre-based |
| Centralised education systems | Italy | France | Austria |
| Non-centralised education systems | U.K. | Switzerland | Germany |

Finally, a word of warning. The case studies reported here reflect a great variety of local cultures, sometimes widely separate in socio-economic environment, in available wealth, in sophistication of education management. The result is a range of reports written in different styles, emphasising different aspects of different processes, and representing efforts which - in the case of countries where educational innovation comes more often under the heading of hope than fact - may strike the sophisticated reader as wasteful or naive. However, the very nature of this kind of report demands that it reflects as accurately as possible the real-life conditions of the countries it deals with. It is only when considered within the complex national context that the innovative efforts described acquire their real meaning. It is with the aim of helping the reader towards a clearer appreciation of these varying conditions that each case study is prefaced here by a short sketch of educational conditions in its country of origin. This should allow a wide spectrum of education users and administrators to recognise how far individual sets of conditions connect with their own situations, and how far the national experiences portrayed here can be translated into new and useful ideas for their own current and future planning.

Whatever the extent to which this not-unambitious task has been met, there should at least be something thought-provoking for everybody in the set of studies that follows.

# I. CURRICULAR INNOVATIONS IN ITALIAN SCHOOLS

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# INNOVATION VERSUS CONSERVATION IN THE ITALIAN SCHOOLS

## 1. INTRODUCTION

The general title of this report on school-based curriculum development emphasises cases of innovation in which the school has played an active role. Bearing in mind the centralised nature of the educational system in Italy, and the limited autonomy of the scholastic establishments and the peripheral bodies responsible for managing them, it might seem particularly difficult to cite initiatives at grass-root level by individual schools or groups of teachers. Accordingly, we ought to start by defining the scope of our survey and specifying that the term "school-based curriculum innovation" is taken to include not only the more significant initiatives taken inside a given school but also those advocated by innovation-minded teachers' associations, learned societies in various fields of enquiry, individual scholars, university departments or research institutions. Furthermore, as educational policy in Italy in general is, these days, more planned and debated than translated into fact, we will be making explicit reference in the present survey to innovatory measures not generated by ministerial decrees. Finally, as no paper on curriculum innovation can be given substance and salience unless it is related to the situation of existing training structures, we deem it essential, as a preliminary step, to indicate some general points of reference about this particular issue. This will provide a framework in which innovations assume their due proportional weight.

## 2. THE "DECRETO DELEGATO" ON TRAINING AND EXPERIMENTATION

The substantive acquisition by Italian teachers of all categories and grades of a definite legal status and the issue of innovatory rules for recruitment of teachers through new procedures for acquiring professional qualification have been given consecration by the "decreti delegati", which are in fact five implementing instructions for a law agreed by the various political parties and based in many respects on an agreement between the unions and the Ministry of Education. In 1974 this Act officially opened in Italy the possibility of collective participation - by parents, pupils, the

community at large - in educational management, and this represents the best hope at the present time for school-based innovation rooted in a socio-cultural context. Nevertheless there is no denying that one of the most important bodies for purposes of programming and change, the school district, has not yet actually been created, and that in any case the Act only confers on it powers to "propose" reforms, and not to decide upon, or implement them.(1)

It is of interest to note the significance of the "decreto delegato" for in-service training of teachers and for trying out methods and precepts. The outstanding new facts are that:

1. proposals and programmes for in-service training may be put up by the individual establishment (through the new managing bodies) and so at long last be founded on the teachers' own demands in relation to the particular problems of type of institute, school and socio-cultural environment;
2. in-service training may take the form of self-training, whereby the staff call in extramural experts while retaining responsibility for the activity and its organisation;
3. there may be in this manner a link-up between the demands for training programmes and the initiatives for controlled innovation and experiment taken in various contexts. Thus, the innovations may be a matter of methodology or didactics (criteria and methods of teaching, organisation and integration of subject contents, use of group work and guided research in the learning process, use of new ways of measuring and assessing performance, etc.) or experiments with new regulations and structures (introduction of new subjects, experimental unification of now separate schools, management changes, etc.) which both require to be backed by up-dating of information.

We have deliberately dwelt upon this important tool of planning and implementation of the innovations (in connection with refresher training for the teaching personnel) to be carried out in specific educational establishments, possibly in liaison with others; it seems a step in the right direction, even if teachers, researchers and the more go-ahead social groupings did not need to await this Act for setting school-based activities in train. Indeed, taking only the last decade, proposals for changes in curriculum and teaching methods have, at all stages of the educational system (from the nursery school to the university), emanated from the lower echelons but assumed different characteristics according to the varying situation of structures existing at each level. It will therefore be as

1) Bollettino del Provveditorato, n6, August 1974 - Special Issue: Decreti Delegati sul Personale della Scuola.

well to give at this stage a snapshot of the current status of these structures, followed by a more elaborate survey of curriculum innovations proposed in compulsory schooling [primary, and junior secondary (intermediate)], and senior secondary, schools.

## 3. THE STATUS OF EXISTING EDUCATIONAL STRUCTURES

### 1. The primary school

The primary school syllabus dates from 1955 and is regarded by a growing number of educationists and teachers as wholly inadequate to cope with the pupils' requirements for affective and cognitive development. It is a problem of the design of education rather than simply out-of-date content and methods, for in this respect the schools were "born old". We shall see later what specific innovatory measures have been promoted from within the primary school. Here we shall only give a few points of reference that have served as a guide and stimulus to innovation in this educational area.

i) An essential problem, one particularly in evidence ten years back and now gradually waning, is that of the high rate of pupils failing to make the grade and kept back in the primary school for another year or more, and the ensuing backwardness and high academic mortality rate of children from the lower strata of the population or otherwise disadvantaged groups - for example the children of immigrants to the north of Italy from the south (mezzogiorno). It is reckoned that about 700,000 children still fail to complete the statutory cycle of schooling. The sharpest political and educational criticism, and the most well-known, is to be found in the Lettera ad una professoressa (Letter to a Schoolmistress) by Don Milani, the parish priest of Barbiana who in the 1960s founded a parallel school for the children of his district "rejected", de facto or de jure, by the ordinary school.(1)

ii) The response to the problem of social conditioning, sanctioned and not challenged by the educational structures, has been either innovations of teaching methods or organisational changes. The most important of the latter has certainly been that of full time schooling (which also includes the lower secondary stage) or extended daily timetable - traditionally limited in Italy to four hours in the mornings, six days a week - with the essential purpose of enabling the school to offer more and better teaching to all its pupils, but especially those unable to count on any cultural support at home.

1) Scuola di Barbiana, Lettera ad una professoressa, Libreria Editrice Fiorentina - 1967.

Full-time schooling is now recognised by the Government as a form of organisational experiment, founded on the possibility of doubling the number of teachers for each class as required by the longer school day and enshrined in the Law of 1971 which introduced "integrative activities" for investigating particular aspects and applications of school subjects and concentrating above all on the development of powers of self-expression, practical and creative abilities and "special subjects" outside the syllabus (modern languages, sport, dramatics). A type of school is taking shape, with a broader educational spectrum and accommodating a great many out-of-school activities compared with the traditional syllabus, having a longer school day and bringing into the school cultural values and stimuli from the outside world.

However, it should be borne in mind that this organisational innovation, to some extent encouraged by the national authorities, has, from 1976 on, been brought to a standstill by soaring costs without the rate of dropout from the statutory schools having been substantially modified.

## 2. The intermediate school

Many of the observations concerning the primary schools also apply to the post-primary, since the two together have constituted to date the eight years of compulsory schooling (ages 6 to 14). Let us quickly summarise the points they have in common, before noting some of the problems specific to the secondary stage.

In the first place, the problem of retardedness and high rate of dropout is even more marked in the secondary stage, where the social colouring of education is particularly noticeable. A high percentage (35-40 per cent) of pupils from working class homes (peasants, manual labourers, unskilled workers) start a year or more behind the rest. They take longer to pass the school leaving certificate (already in itself a partial failure) or drop out altogether at a stage in their school life where this is equivalent to total failure.(1) Hence the necessity for the policy of the right to be educated, as expressed in the allocation of grants and school welfare services, to concentrate on the junior forms of secondary schools in order to cover the high personal costs of education and grapple seriously with social conditioning. Actually only 37 per cent of post-primary pupils receive grants and these cover only 17 per cent of the costs that each pupil has to meet.

Secondly, besides the need for a massive increase in welfare assistance at the post-primary level - raising the average outlay per assisted person to cover the cash costs - both the primary and

1) F. Padoa-Schioppa, Scuola e classi sociali in Italia, Il Mulino, Bologna, 1974.

secondary schools need a much better qualified staff and gradual extension throughout the territory of full-time schooling fully integrated in the real social environment and capable of tackling the potential clash of cultural values in the home and the environment. Here, priority should be given to the depressed areas.

As regards the specificity of the post-primary school, it is pointed out that, legally, this was only set up in its present form in December 1962 after a fierce political battle over structure and syllabuses, and that the essential novelty of its function, has been to establish a unified school for age groups 11 to 14 as well. Thus the eight years of compulsory schooling form a single whole, with no distinctive streaming or premature choice of type of studies that would otherwise be liable to be determined by the social class from which the children are drawn.

As for the teachers, they were quite unprepared to meet the new educational aims proposed by the reform or the consequent need to alter the methods and content of the traditional curriculum, for even where the subjects wore familiar labels the requirements of Italian, maths or history were very different from what they had been before. But above all, the teaching staff was incapable of coping with the social and cultural reality of a school for everybody, to which the lower strata of the population were gaining access for the first time. The rejection of the reform by a great many teachers (at any rate during the first seven years of its implantation) is documented by two important enquiries, one by Barbagli Dei (1969) and the other by Cesareo (1969).(1)

In the new lower secondary school, one sector in which a few attempts at innovation have been made is that of evaluation of academic efficiency. In the vast majority of cases, pilot schemes have introduced the "unified three-year cycle" without any possibility of failed or referred candidates taking a second chance examination during the cycle. Furthermore, the traditional system of marking by the teachers has been discarded in favour of more or less detailed pupil assessments twice yearly. Only in those schools where some kind of educational psychologist consultancy is available has it been possible to compile an analytical card index indentifying and collecting all the elements required for assessment - knowledge, interests, intellectual and operational abilities, behaviour, character - just as in some instances objective testing procedures have been devised and/or used.

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1) M. Barbagli-M. Dei, Le vestali della classe media, Il Mulino, Bologna, 1969. V. Cesareo, Insegnanti, scuole e società, OPPI, Milano, 1969.

3. Upper secondary schools

In the Italian educational system the senior secondary school is the one that has been longest in need of a radical structural reform, including in any case associated changes in curriculum aims, methods and content.

The delay in parliamentary debate on the various alternatives of reform (the broad lines of which were laid down at the OECD seminar in Frascati in May, 1970) has at least had the advantage of giving the matter time to clarify itself and of affording an opportunity to combine the proposals put forward by the parties most closely concerned. Indeed, the draft reforms of secondary education tabled in the Chamber of Deputies in 1975 with the backing of all parties (most notably the Christian Democrats, the Socialists, the Republicans and the Communists) have lately been debated by a restricted committee of MPs and there is now hope of a certain convergence of views on the general outline of the reform in its major aspects. These are:

a) unification of the secondary school without perpetuating, under false colours, the existing rigidly pre-ordained subdivisions into watertight compartments (classical and scientific "licei", teacher training schools and colleges, technical institutes, vocational institutes) and the consequent elimination of social distinctions between the various educational channels;
b) bridging the gulf between cultural training, specifically given in the more academic establishments, and vocational training in courses having a restricted and monovalent occupational profile, thus moving towards a new educational goal in which the two complementary dimensions are recombined;
c) distinguishing in the curriculum between a common area, an optional area (taking the form of non-irreversible choices of direction from the 3rd grade only) and an area of free choice (where the pupil takes whatever classes and activities he pleases). With this goes a stepwise proportional reduction of the common area, albeit with a fixed downward limit (varying, according to the courses proposed, between 1/4 and 1/2 of the total during the final year).

# INNOVATION IN COMPULSORY SCHOOLING

## 1. INTRODUCTION

It is not intended here to follow a chronological sequence in describing innovations in the primary and post-primary stages of schooling: instead, it seems more useful to select examples that typify the current situation. We will, therefore, pass over important and worthwhile initiatives in the past, as for instance those inspired by Montessori methods, and respectfully omit reference to that band of "ideal" teacher-figures who have always, in all types of establishment, introduced their own personal curricular reforms.

However, one exception has to be made. Don Milani occupies a place apart: with his school at Barbiana and through his book Letter to a Schoolmistress he has pronounced a stern and substantial stricture on the Italian educational system and the persisting class selection practised by it, and has, by the ethical and political overtones of his experience and personal testimony, roused the interest and sense of involvement of a wider readership than that of specialised educators. By appealing not only to the practising teacher but everyone interested in education as a social service (his book is addressed to parents) he has spurred on the teaching profession to reflect upon its own work, as well as stimulating the "experts" in a more general sense (parents, political groupings, university graduates) to concern themselves actively and directly with the schools.

As things are at present in Italy the primary and post-primary schools are still separate entities and this is reflected in the training given to their teachers. Nevertheless there is growing awareness of the need for a statutory schooling tailored to suit the continuous growth of the child with a unified, continuous educational curriculum. In other words, with no unnecessary cleavages between the ages 6 to 14. Such awareness is more in evidence, however, among the primary school teachers than the rest - especially in establishments having a strong connection with their social environment.

In the following review of school-based innovation in Italy the examples have been taken from three distinct areas of activity:

- schools serving a particular district and planned to cover the whole of compulsory education,

- working groups of teachers and/or other experts for curriculum innovation,
- the teaching of mathematics where some innovatory measures have had a notable development, either because of particular interest on the part of teachers or pressure of informed public opinion on this basic subject of study in which schoolchildren too often show no interest.

## 2. SCHOOLS IN THEIR DISTRICTS

For reasons of space, we will consider only two examples of "community schools", to use R. Laporta's term.(1) These are one of the more classic experiments in relating the school to its social environment (the Pestalozzi "Scuola-Città" in Florence) and one of the latest so to do (the Villaggio scolastico, the school village, of the Corea district in Livorno).

### 1. The Pestalozzi Scuola-Città, Florence

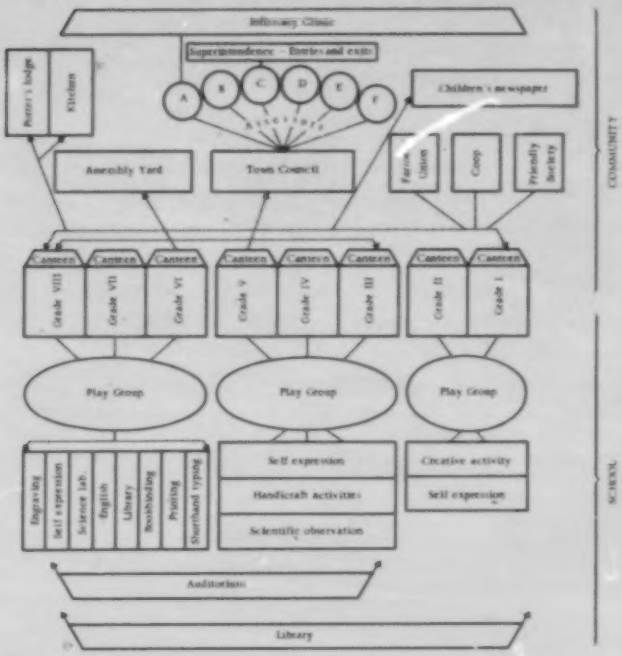
This school was founded immediately after liberation in 1944 by Ernesto and Anna Maria Codignola as a private undertaking and was later recognised by the Italian Ministry of Education which is now in charge of its staffing. A great deal has been written about it and the reader is referred to this for detailed study.(2) We shall merely draw attention to its salient features.

One essential characteristic of the school is expressed in its very name, SCUOLA-CITTA, a place to provide education for life in society. This, of course, presupposes the creation of internal organisational structures to enable the pupils' involvement in the management of the school as a community without, at the same time, neglecting their formal education. Figure 1 shows how the Scuola-Città Pestalozzi has solved this problem.

The multifacetted experiences undergone by the pupils within this complex network of activities provide the "education for social life" the school aims at. The school is understood as a working community in which various aspects and forces co-exist and interact (stints of menial labour, manual activities, civics, administration of justice and health, welfare, religious, aesthetic, historical and scientific activities). Such a school presupposes teachers permanently in contact with a living and continuously evolving culture, which implies constant awareness of the relationship between schoolwork and the real world outside, starting with the family circle and its immediate surroundings.

1) R. Laporta, La comunità scolastica, La Nuova Italia, Firenze, 1965.
2) See for instance: E. and A.M. Codignola, La Scuola-Città Pestalozzi, La Nuova Italia, Firenze, 1969 (2nd edition revised).

Figure 1. ORGANISATION OF THE PESTALOZZI SCUOLA-CITTA ENABLING THE INTERPRETATION OF EDUCATION FOR LIFE IN SOCIETY WITH FORMAL SCHOOLING




A – Health
B – Public works
C – Discipline
D – Culture
E – Leisure activities
F – Finance

In this scheme of things "life in society" is seen as an essential stage in the process of self-discovery by the individual. Collaboration between teacher and pupil radically alters traditional position; the education process starts with the child's real experience and its growth is fostered by activities over a very broad front. There is no traditional system of marking in the school. Instead, a judgment is formed of the child's whole personality having regard to work done, character, environmental and home conditions, and social qualities. The teachers are required, of course, to take an interest in every aspect of the life of the school community: the collaboration required of the children must first be demonstrated in action by them.

In addition to the principle of education in social matters and civics, the Pestalozzi Scuola-Città is inspired by the idea that the educational process should result from a dialectical relationship between school and educational research. Here it is relevant to quote the words of Lidia Tornatore, Principal of the school from 1963 to 1972.

One of the problems to which educational progress nowadays attaches particular importance is that of the necessary relation between the school in action and educational research at scientific level.

The "Scuola-Città has sprung from this way of thinking, and is liable to be misunderstood if this dimension of its aims is overlooked. It did not only come into being to give the children of S. Croce, many of whom would have dropped out of any school or at any rate remained abandoned to their own resources outside the ordinary school timetable, an education befitting the renovated ideals of democracy; if that had been the sole object, the school's vitality would have depended on a particular situation at a particular moment in time, and most likely lasted no longer than so many other initiatives taken in the aftermath of World War II.

Actually, in founding the Pestalozzi "Scuola-Città", Ernesto Codignola was acknowledging and sanctioning the need to bring directly to the school the fruit of long familiarity with educational studies at scientific level, thus opening up a very unfamiliar path, then as now, in the educational climate of Italy.

The vitality of the "Scuola-città" does not reside in the fact that certain scholastic traditions, fundamental to be sure, have been substantially kept up, but is rather a quality of the guiding principles that presided over its foundation and from which, as time goes on, further possibilities of application and development will come to light.(1)

Hence "Schooling for everybody" first of all, continuation classes for those having left school, and then full-time courses, and, too, preparation for social living through an understanding of the wider cultural, social and political phenomena in which man achieves his full stature. The child should be given at school the means whereby he can assimilate the basic structure of the culture of our times. In order that schooling may be genuinely for everybody, the educational problem comes before all else. This demands of the teachers constant reflection on the meaning of "intelligence" and "culture", and keeping abreast of the most advanced educational research, knowing how to assess it and put it to good use.

In the last few years, especially under the guiding hand of Lidia Tornatore, one of the most outstanding Italian experiments in curriculum reform and the learning process has begun. The work of deepening and rationalising teaching was first directed towards mathematics and the sciences in the belief that early initiation in these

1) L. Tornatore, in L'Insegnamento delle scienze, special issue of Scuola e Città nn. 11-12, 1969.

subjects would provide a proper foundation for the child's mental development. Mathematics teaching starts with concrete manipulative operations by which the child can gradually construct his own abstract ideas and conceptualising tools. In science a start is made in the earliest classes with developing operational skills and familiarising the child in the appropriate use of scientific methods, both in the physical and the social sciences, varying the content of teaching and practical activities to accord with the pupils' immediate interest. Similarly in language classes, emphasis is laid on the different uses of the language, the development of "comprehension in reading" as a basic ability (on which the acquisition of further culture will depend), on the need for enrichment of the language and gradual mastery of the structures and vocabulary of the mother tongue by special attention to the linguistic system. This is the only point at which the question of grammatical correctness and reflexion is tackled.

The time the school has been running and the successive transformations it has undergone show that education has been regarded there as a dynamic process: leaving the rudiments substantially unchanged, structures and activities have over the years assumed increasingly articulate and informed patterns. Obviously, the school as an educational community, opening upon the wider community outside, has given a stimulus towards a dynamic state in which the "Scuola-Città" continues to evolve internally. In the Italy of today, it is one of the places where there is genuine experimentation towards the combination of a true full-time school with no interruption between 'inside' and 'outside' activities and a well-articulated system of eight-year compulsory education (ages 6 to 14).

## 2. The "School Village" of the Corea district

Another example of an experimental school covering the full range of basic education (ages 3 to 14), deeply rooted in the social life of its district, is provided by the school village of the Corea district in Livorno. It was founded on the educational principles of Don Milani and the social experience of Don Facibeni(1) as an organic attempt at a complete education in the state school system, with workers' extension classes. Initially it was privately run, but in 1974 it was given the legal status of an "experimental school" with state financed staff.

In the belief that the schools were failing in their task, and that teachers at all levels were unprepared for a school that offered a complete education, this pilot scheme was started as an act of faith with a view to creating a new type of school for a society undergoing basic social and cultural change, a school that would have a new kind of relationship with the surrounding community. The merit of the

1) G. Facibeni, Scritti Scelti, Libreria Editrice Fiorentina, 1970.

Livorno scheme lies in just such a relationship, and its emphasis on the exchange of information and experience, and an awareness of other political, social or religious experiments and achievements. Both aspects are illustrated in the school village's publications (Quaderni di Corea), which are of two kinds: "educational", covering practical teaching, topics and experiences, and "debates" which treat problems of a more general character.(1)

The organic experiment in full-time schooling was born of an extension scheme started in 1962 as a first essential service to meet the needs of working-class children in the district. This scheme was presented both as a means of squaring accounts (overcoming the children's cultural deprivation) and as a centre for recreation and research, the widening and cultivating of personal interests and development of intellectual ability.

To meet these aims there has to be collaboration between pupils and between teachers: the school must be organised to put the pupils in situations calling for group work, and the teachers must operate as a stable and organic team. The need was also felt for teachers to specialise in order to achieve higher subject qualifications and so make their lessons more "creative".

The pilot scheme allowed for the necessity of a variable use of space (instead of the traditional classroom, specialised activity areas) and a timetable using the three "after-school" hours for complementary activities alternative to, or meshing in with, the traditional lessons given during the morning.

## 3. GROUPS FOR DIDACTIC EXPERIMENTATION

### 1. The "Movement for Educational Co-Operation" (MCE)

In 1951 a movement was founded to introduce the Freinet methods of education into Italy. Participants in this saw education from the outset as a process of in-group socialisation and awakening of a democratic spirit in which the importance is attached to the analysis of social and political values.

The practical manifestations of this derive from a constant rethinking of the principles and practical qualities of education. The proclaimed sources of educational theory were the works of Dewey and Freinet, but a continuous endeavour was made to rethink, in original and personal ways, techniques, methods and theoretical principles, with more especial reference to classroom realities and the children's requirements.

The very name of the movement indicates one of the educational methodologies, namely the co-operative relationship between pupils,

1) I Quaderni di Corea, Libreria Editrice Fiorentina, 1972.

and between them and the teachers (as opposed to one based on a closed system and individualism). This, together with the free development of the child (as opposed to repetitive teaching), produces a situation where it is possible to train individuals for capable action in the context of their own real life.

The teachers enlisted in the MCE come from all types of school, but their most important work is at the primary level where their intervention is a two-step process. At first they propose non-systematic (as opposed to organic) activities where the unifying principle is co-operative endeavour, the development of specific manual and intellectual skills and fostering the child's creativity. From all this emerges the need for scientific investigation that takes into account the theory of mental development and learning processes. At the second stage comes more organically programmed activity: organised work, guided study, individualised assessment for each child, especially in mathematics, science, the human sciences.

The student unrest in 1968 precipitated a crisis in these activities because of the contradiction alleged by some to exist between teaching directed towards intellectual development and that which had a political orientation.

An attempt to get round this apparent opposition between education and politics can be seen in the 1975 annual assembly report of MCE. Among the operational goals of creating a school in the service of the workers, altering the current socio-cultural model and turning the school into a means of appropriating the instruments of knowledge, this refers to the movement's concern for research into, and construction of, an alternative educational praxis for restoring the physical, affective and cognitive aspects of the personality and its relationship with society.

MCE is organised in working groups that can be set up locally or nationally for particular areas of study and sectors of experiment. Its executive organs are the general assembly of members of the movement, the national committee, regional co-ordinating committees, national secretariat and editorial boards. Its information media are meetings, training courses and seminars, and various types of publication: the bulletin Informazioni MCE, the review Cooperazione Educativa, the information booklets and other publications from a co-operative publishing house which also produces and distributes teaching material evolved by the movement in application and amplification of Freinet techniques. There are currently about 1,500 members, operating in 40 national and 8 regional groups which deal with the following topics: ecological research, visual education, mathematics, science, linguistics, cultural anthropology, social management of mental health, physical training.

2. The University - School Group

The official birth of this group dates from 1973 when an open letter illustrating its aims (already a year old) was sent to various journals. This letter followed upon a collaborative study by university staff and teachers from various types of school, prompted by the initiative of certain university staff/parents who had proceeded from passive criticism of the educational system offered to their children to constructive action that necessarily involved co-operation with the teachers. Such collaboration was looked for and found through contacts between staff of the Rome schools and teachers at the Pestalozzi "Scuola-Città", whose experience was already well documented in the educational literature.

After an initial experimental period with the university staff participating in out-of-school activities, joint discussions on the aims and objects of education and a residential seminar to discuss possible means of integrated teaching, the group decided to announce its establishment and specific aims. Its open letter describes its aims as follows.

> The group proposes to identify, and experiment with, content and methods for an educational task aimed at the development of general abilities for inquiry and understanding, self-expression and communication, planning and action. Formulation of this task may and should, at this initial stage, come within the scope of basic schooling. The characteristics of the proposed renovation of teaching methods, starting with the primary stage, are as follows:
>
> a) identifying and stating the educational objects of basic schooling as a whole, with a view to educating all the pupils on a footing of genuine equality guaranteed by adequate tools of knowledge and communication;
> b) ensuring from the outset of the curriculum the attainments most likely to foster the further development of individuals capable of self-reliant and critical action in real situations. Indeed, as the problems of educational action in relation to mental growth call for investigation at every level, it is a particularly urgent and definite requirement in the primary school - precisely because all the conditioning factors, positive or negative, of all development converge upon, and are postulated by it.
>
> The teaching method advocated identifies, by direct confrontation with human, social and natural realities, the fundamental educational motivation and tools. We propose to this end, on the cognitive plane, the objective of cultivating a scientific attitude in the child by direct and personal enquiry, as the

means of arriving, in a co-operative and controlled manner, at constructive interpretations and programmed action. Investigation is inseparable from evaluation and co-involvement: consequently scientific education demands parallel development and integration of the various dimensions (affective, cognitive, social, expressive, aesthetic, manipulative) of the growing person.

The group has no statutorily defined organisational structure, organising committees or the like because it has been based so far on voluntary personal collaboration. It avails itself of facilities provided by the Institute of Physics of Rome University, where it has its secretariat. To date, its investigations have yielded particularly significant results as regards the creation of an educational research-oriented group. These activities have enabled:

a) concrete experiments with the possibilities and operating modes of effective collaboration between school teachers and university specialists in various disciplines for the purposes of educational research. Such collaboration is not taken to mean hard-and-fast proposals in respect of educational content and aims advanced by the experts and simply applied by the teachers, but the elaboration, trial and testing of innovations arrived at by joint work in planning and application;

b) developing in progressive stages the training of researchers capable of evaluating and managing the multiple dimensions of educational investigation, ranging over classroom management, evaluation of performance, curriculum planning, the organisation of individual activities, "cultural" updating of specific themes, problems of mental development, the preparation of scientific material for the communication of results, and so on.

For further particulars of the theoretical background and operational proposals of the University-Schools Group are given in two papers: one by Guidoni Vicentini-Missoni (1976) and the other by Tornatore and Pontecorvo (1976).(1)

## 4. INNOVATION OF MATHEMATIC CURRICULA

Many attempts have been made in Italy and elsewhere for the improvement of mathematics teaching. A number of these have been

1) P. Guidoni-M. Vicentini-Missoni,"La formazione dell' insegnante e del ricercatore nel settore fisico-matematico", in Scuola e Città, nn. 11-12, 1974.
L. Tornatore-C. Pontecorvo, Problems in the design of an integrated curriculum, Proceedings of the meeting on Science in primary education, Roma, 7-15/1/1976, Accademia dei Lincei, Roma 1976, in press.

adaptations and the dissemination of foreign projects like the Nuffield school mathematics project.

Among the schemes of a more school-based character now being tried out, the RICME project deserves particular mention. It was started by a group of primary and secondary teachers who, since 1967-68, have been engaged on joint educational research under contract to the National Research Council and in close co-operation with the universities and the Società Mathesis (the appropriate national association managed by teachers of subjects directly or indirectly concerned with mathematics). The group's research concerned all types of school, and in association with it a training programme for probationary teachers has been carried out, culminating in the presentation of initial teacher training dissertations.

In February 1973, on the occasion of a study seminar sponsored by the same group, it was proposed that attention should be focussed on a more organic project. The sector chosen was elementary (basic) mathematics, the reference material being certain documentation produced in Hungary by the National Institute of Education, and some prepared in Italy by members of the group.

The project, financed by the CNR,(1) became operational on 1st October, 1975: it embraces 16 classes (scattered in the suburbs of Rome), 18 primary teachers, 4 secondary teachers, and 3 university lecturers.

The objectives and operational plans relate to two sectors: curriculum content, methods and material; and cultural and professional education of teachers. For the curriculum, agreement was reached on a scheme integrating general objectives of cognitive, sensory-motor and affective development. From this were derived guidelines of renovation of content (given the decrepitude of existing official syllabuses), methodology (which, in the promoters' view, plays a determining role) and requirements of interdisciplinary approach (to ensure unity of academic training).

The method has accordingly been built around integrations of classes, groups and individual contributions with a view to the definition of key concepts, the acquisition of intelligent behaviours and motivations, development of positive attitudes towards learning in general and mathematics in particular. For more effective monitoring of the quality of studies, and therefore more uniform standards of educational efficiency, instruments have been designed for diagnostic note-taking and educational evaluation on the basis of systematic observation, thinking aloud and objective individual tests.

In view of a decision to start the experiment with teachers not specially prepared for it or competent in the matter, the need had

1) Comitato Nazionale per la Ricerca - The Italian National Science Foundation.

to be faced of carrying out the tasks of guidance and cultural and vocational training in parallel. For this purpose, a co-operative structure was elaborated, based on the organisational drive of groups of four teachers working in the same school plus one secondary teacher. The groups met at least once a week to compare notes and plan the educational experiments. In some cases there was, additionally, a proper kind of unstructured team teaching, the whole group of 90-100 pupils being entrusted to the care of the co-operative group. This solution proves particularly apt for ensuring more specialist services for the handicapped, of whom there are some in every class. The whole group convene monthly to go over together the ground covered and experience gained, prepare or revise material, plan future action. It is left to each teacher to take final responsibility for modulating progress and favouring a given approach or topic according to the requirements of the group of children concerned.

The parents too are drawn into the scheme. At the start of the year they are invited to come and discuss with the teachers the objectives and methods adopted, and give their consent for the innovation. At the end of term progress is reviewed with them. The weekly school meetings are open to any parents who may be interested. The work also proceeds in close contact with the team of medical and psychologist personnel, if any.

## SECONDARY EDUCATION AND THE UNIVERSITY'S CONTRIBUTION TO IT

### 1. PILOT SCHEMES IN THE SECONDARY SCHOOL

#### 1. Status of the schemes

Innovation experiments in the ordering, structuring and curricula of senior forms in secondary schools may be said to have started from the conclusions of the OECD-CERI Seminar at Frascati (May 1970) whose final document indicated, besides the prospective choice of a unified secondary school and adoption of a model broadly defined as all-comprehensive, the requirement for a "continuing process of experimentation and innovation, such as to draw the maximum advantages from the structural flexibility which should be permanently guaranteed to the new institution by the Law".(1) Indeed, the central authorities specifically charged with the task have encouraged and subsequently stimulated experiment at the level of the first two years in the secondary school (cf. Table 1), but at the same time they have baulked at planning the radical changes also proposed for the subsequent three years. The consequence of such a policy approach is unfortunate: it perpetuates the sharp distinction that exists between "general" and "vocational" education in Italian schools. Given the social class bias in student enrolment in the two types of school, it continues the segregation from general education of young people coming from lower socio-economic backgrounds.

#### 2. Character of the pilot schools

The considerations that follow refer only to some of the pilot schemes, more especially the earliest (those started in 1970-71) which already have a history behind them and have often passed through harsh vicissitudes in respect of buildings, equipment, operating funds, recruitment, specific refresher training and continuity of staff, as is common to all experimental situations in a country with a highly centralised administration and proliferation of red tape when confronted by the special requirements of innovation.

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1) New Approaches to Secondary Education: Italian Problems and Prospects. OECD/CERI Technical Report, 1971, p. 63.

Table 1 *

ONGOING PILOT SCHEMES IN UPPER SECONDARY SCHOOLS

| | 1st and 2nd forms | 3rd, 4th and 5th forms |
|---|---|---|
| Classical "ginnasio-liceo" | 13 | 4 |
| Scientific "liceo" | 15 | 1 |
| Teacher training colleges ("istituto") | 2 | - |
| Technical college | 28 | 1 |
| Vocational training establishment | 8 | - |
| Teacher training school ("scuola") | 1 | - |
| Art school | 1 | - |
| Fully autonomous pilot schemes for the two junior forms | 3 | - |
| Miscellaneous non-state establishments | 10 | 2 |
| Total | 81 | 8 |

* These figures are taken from the Report on ongoing pilot schemes presented by the Minister to the Parliamentary Committee on Education on 13th February, 1975. The number of schools having been authorised by the Ministry to conduct such schemes is likely now to be slightly higher seeing that several state and non-state establishments had in 1974-75 embarked on projects formulated by the teachers' associations, over and above the experiments with two junior forms, authorised on the basis of the ministerial project referred to above. According to more recent figures (cf. "Formazione e Qualifica", the Journal of the ECAP-CGIL, Nos. 29-30, December 1975) the authorised schools now total 90.

We refer to pilot "schools" since they embody, institutionally speaking, situations departing from the classic norms especially in respect of internal organisation, the social climate of the school, interpersonal relationships, the educational rapport between teachers and taught. The usual terminology of scientifically founded educational experiments is not adequate to describe such schemes, in which the terms "working hypothesis" and "proof" are used but more in relation to the internal learning process than to external controls. Still less can the question of their generalisation be posed, hence of their validity, since there has been no possibility whatever of working on random samples, nor could anyone (let alone the educational authorities) have demanded that proper research planning and norms be applied, on however experimental a basis.

The experimental nature of the schemes (and the word "experimental" is now used in this sense by both pupils and parents) lies

in trying to "change the school" by attempting to precipitate radically new educational situations as demanded by the university student and secondary school pupil movements since the 1960s, and urged by the democratic teachers most afflicted by the closed-in atmosphere, repetitive and often mindless routine, backwardness of content and anti-educational methods that were most obviously displayed in post-primary education, especially since the institution (in 1963) of the unified secondary school.

Thus the schemes are marked by the introduction of innovations in structure and regulations, a system of common subjects and optional subjects (discarding, that is, a curriculum identical for everybody in a given type of school), with the addition of new combinations of subjects and the possibility of wholly optional classes. Above all, however, they accentuate the anti-authoritarian aspects of the pilot secondary schools in which, de facto and de jure, much more egalitarian and less hierarchical relations have developed between pupils and teachers, and where it has been sought to substitute, in the place of the traditional individualistic vision of the teacher-pupil system, joint management of the school by all its users, experimenting with collegial programming, debates and inquests on the curricula for the various subjects through the class council of teachers, pupils and parents.

The motivation to break away from the individualistic and competitive spirit of the traditional school, to make it more flexible and its management organs increasingly democratic (this last being partly prompted by the "decreto delegato") is given expression in the educational aims and methodological procedures predominantly adopted by these schools. These attach great educational importance to group work within the framework of teaching methods focused on personal and collective research and the identification of interdisciplinary links, without excluding individual work by the pupil; but noting nevertheless that joint research by small groups is an essential tool for stimulating motivation and for learning, developing sociability, rehabilitating weaker students, avoiding the individualism and the creation of misfits inherent in the usual formal lesson/interrogation marking system. For assessment purposes, the current practice is written tests of non-traditional type (e.g. objective tests of progress, comprehension tests), and the old system of marking and school reports has been wholly jettisoned in favour of analytical ability assessment sheets, in which weight is given to the social dimension of participation and zeal in classwork and school management.

Another typical innovation in these pilot schools has been abolition of the same textbook for everybody for indoctrination and implanting ideas as demanded in conventional teaching. This is now

replaced to some extent by generously endowed school and classroom libraries, mostly paid for by parents as an alternative to their normal individual purchase of school books for their children. The controversy over abolishing textbooks is also very much alive in many non-experimental schools, where the matter has been raised by members of the MCE. The debate is of particular importance in primary schools where the current use of a unique textbook, written around very detailed - and arguable - directives from central educational authorities, is liable to limit and impoverish the cognitive growth of the children, especially of the youngest among them.

To sum up, the pilot schemes, especially in the senior forms of secondary schools, offer themselves as "alternative" schools (to use the American term) or "open" or "free" schools. The same generalised request for "full-time schooling" (namely, a morning school with an afternoon extension three or four days a week) reflects the desire to create a different kind of school that will educate rather than instruct, activating all the educational dimensions usually neglected (theatre, music, films, local and national community life, and the like). Its primary purpose would be "the search for unified knowledge, in the sense of understanding of the real world, or a nexus of knowing and doing and as education for life in society" (paper on the experimental schools, seminar at Foligno, 24-26 March 1975, in Rattazzi, 1975).(1)

In the interpretation of the character and difficulties of these pilot schemes we find Bernstein's theory of curriculum models(2) and the relation between types of curriculum organisation and authority relationships inside the school(3) particularly apt. The type of educational code these schemes are evolving is exactly that which he defines as "integrated", in which kinds of curriculum content are continually in a relation of mutual open-endedness and communication, generating changes (or "perturbations") in traditional authority structures. More communication between kinds of content calls for research into common methodological postulates in teaching and evaluation, lowers barriers between subjects, teachers, classes and creates a situation rich in possibilities for co-operation, intensive social relations, and the formation of informal groups (including, of course, pupil groups). The ensuing disappearance of a social order based on hierarchy considerably augments the need for a general consensus on

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1) U. Rattazzi, "Bilancio degli sperimentali", in Riforma della scuola No. 5, 1975.

2) B. Bernstein, On the classification and framing of educational knowledge in class, codes and control, Vol. 1, Routledge and Kegan Paul, 1971.

3) C. Pontecorvo, "La ricerca sul curricolo: teoria e pratica dell' innovazione", in AA.VV. Il curricolum nella scuola italiana, Istituto Enciclopedia Italiana, Roma, 1977.

ends and means, and a good measure of ideological agreement among the staff with a view to that greater homogeneity looked for in an integrated curriculum.

Both Bernstein's theoretical model and the more descriptive account given by Deal(1) of the reasons for failure of many alternative schools in America confirm that it is increased informality and operational diversity (in sum, the marked de-structuring peculiar to these schools) that dissolve the defensive barriers, both within (among teachers, and between teacher and pupil) and without. The weaker structure of these schools is therefore easily eroded by negative external appreciations as well as inadequate flow of information and internal feedback. The perils besetting these schools are, then, those of eventually being sucked dry or of reverting to the traditional structure: both are avoidable, provided a living dialectic between curriculum integration and the school's psycho-social characteristics is maintained, and a sufficiently sophisticated organisation can be evolved to match their overall educational programme.

A very active group of secondary school teachers, the CIDI(2), was formed in 1972, following the more direct politico-educational involvement during the peak years of student protest. The headquarters of the CIDI are in Rome. Its publications and pamphlets reach every corner of the country, information being supplied to it by some 1,000 correspondents from all over Italy (see, for example, variety of authors contributing to Questioni di Didattica, 1975 and the transactions of the CIDI conference, 1975)(3). All CIDI members work on a voluntary basis. The organisation's running costs are met through membership fees and the sale of the publications.

CIDI is a grass roots democratic association arguing the necessity of a new role for the teachers as agents of change in the framework of a revaluation of the school as a centre of democratic living, as a place for the production (as well as dissemination) of knowledge related to the real world, and as an instrument for training young people to think for themselves. Its anti-fascist stance is important in a city like Rome where neo-fascist violence and aggression towards secondary school teachers and pupils have been occurring with increasing frequency.

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1) T.E. Deal, "An organisational explanation of the failure of alternative secondary schools", in Educational Research, AERA, Vol. 4, n. 4, April 1975, pp. 10-17.

2) Centro di Iniziativa Democratica degli Insegnanti - Teachers' Centre for Democratic Action.

3) CIDI, I nuovi organi collegiali e il rinnovamento culturale e didattico della scuola, (14-16 marzo, 1975), in offset, 1975. CIDI, Questioni di didattica, Editori Riuniti, Roma, 1975.

The essential object of CIDI is then to promote cultural and educational change in the schools, calling for a specific contribution by the teachers, mainly with an eye to reformation of the senior forms of the secondary schools which have remained unchanged for fifty years and are incapable of providing a historico-scientific, technological and vocational training commensurate with the country's latest cultural acquisitions and socio-economic growth.

More specifically, CIDI's main concern is with the specific contribution teachers can make to the new collegial system of school management, to improved pupil-teacher relations, the choice and organisation of cultural subjects in the curriculum, the study of educational methodologies capable of stimulating learning, and to a review of the real purpose and goals of education at the present time.

CIDI operates principally through weekly or fortnightly meetings of working groups of teachers and other experts, mainly for the study of sectors of curricular disciplines in the secondary school. Among the currently active groups one is studying problems of linguistic education, and another the teaching of Italian literature in secondary schools, making use of the interpretative tools of structuralist linguistics. Yet another group is concerning itself with various proposals for the teaching of philosophy in the unified senior forms in secondary schools due to emerge as a result of recent reforms. At present this subject is offered only in the licei in the form of a general "History of Philosophy". A fourth group specialising in science teaching is grappling with the epistemological and didactic questions arising from a historico-critical approach and the use of the inductive and axiomatic method.

## 2. ROLE OF THE UNIVERSITIES AND THE LEARNED SOCIETIES

### 1. Introduction

In considering the role of the universities in the educational process we may distinguish two different, though closely correlated, aspects: the university as part of the scholastic system - teachers, students, university curricula and the relationship of the universities to society; and the university viewed in relation to other categories of establishment, both as a centre for discussing and establishing educational theory (more especially in the institutes and chairs of pedagogy in the faculties of education, and of arts and philosophy) and as the source of supply of future secondary school teachers (this takes in all faculties).

The gulf between theory and practice has in the past been clearly exposed by the identification of the university as a forcing

ground for culture (theory) and the other academic institutions as places for its propagation (practice). This dichotomy is reflected also in the form of a hierarchisation of the schools (and their staffs), with the university at the apex as the place where "experts" determine what "culture" should be handed down to the lower levels. One consequence has been that the goals for educational curricula have been set in terms of their propaedeutic function for higher learning rather than for the cultivation of abilities and methods immediately usable for improved understanding and action in the real world.

All this is of course being altered: the student unrest in 1968, in Italy as elsewhere, demonstrated how remote the universities were from the real life of the country. But the process of change is slow. Naturally, the crisis of the universities as a part of the educational system is bound up with the role of science in society: hence, in university thinking about its own role in education, the specialised learned societies also have a word to say, and it is hard to say which first began to get to grips with the educational problem - the university in general, or more specifically the learned bodies.

Whichever was first, however, they both began with problems of pre-university teaching - possibly to get their hands on a reality external to their own. University thinking about itself, its ends, the efficiency of its curricula for the training of scholars and professional men, and university teaching, can be said hardly to have begun, apart from a few sporadic attempts by individuals.

2. Teaching seminars and initiatives by Science Faculties

The problem of co-operating with teachers in other categories of establishment and creating structures to facilitate such co-operation has arisen particularly acutely in Science Faculties. Here the need is felt to stabilise relationships between experts in the various scientific disciplines because the reform of the junior post-primary (intermediate) school by the introduction of Scientific Observation classes has called for a new kind of teacher: one no longer a specialist in a particular discipline but having all-round qualifications for all the physical and natural sciences. What is more, theories on the learning process and cognitive development have been gaining ground, and it is now realised that a teacher in the intermediate school has to be au fait with them. This has necessitated the additional collaboration of experts in educational psychology.

For these reasons Teaching Seminars in Science Faculties came into being. They started with one at Bologna, originally designed for preparation of teachers and syllabuses for the classes in Scientific Observation, and then spread to Naples, Palermo, Turin,

Modena, Bari and Pavia. Their immediate purpose is, of course, to secure collaboration among subject specialists, organise seminars and meetings with teachers, and plan and execute units of instruction or curricula.

Some degree courses also include syllabuses of specific teacher training studies, known as educational guidelines (indirizzi). These, however, bear the stamp of the prevailing hierarchy of values in the universities, according to which culture is only advanced by scientific research, teaching being regarded solely as the dissemination of culture, and educational research discounted altogether as serious scientific research. Consequently, the indirizzi schemes have ended up at a lower level than courses designed for training researchers. A revaluation of the role of the teacher might be achieved by following up combined degree courses for both teachers and researchers(1) with post-graduate courses in either educational theory or research. An example of post-graduate courses for school physics is the one that has been offered at the University of Modena since 1970. This is a one-year course, aimed at complementary specialised cultural studies, together with courses in educational psychology, criticism and the history of physics.(2)

The interest shown by university researchers and teachers in educational problems is, however, attested by the ever-growing number of conferences on the subject being arranged by the learned societies. The SIF (Italian Physics Society), since the first publication of its Journal with a bias towards popularisation and education in 1956, is notable for having maintained a link between research and teaching, albeit with a view to improved dissemination of content and methods from the place where culture is generated (the university) to the one where it is communicated (the school). Another pointer is the amalgamation of its annual conference and that of the AIF (Physics Teachers Association), since the AIF was formed in 1968, although so far this has been more a matter of holding both at the same time and place rather than integrating personnel and content. In the last few years the SIF has promoted specialist conferences (e.g. Science in the Capitalist Society, Florence 1970) at which the educational dimension has gradually grown larger.

The 1st Conference on Physics Teaching (Pisa, June 1975), which mainly discussed general educational problems, was followed by a 2nd

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1) P. Guidoni-M. Vicentini-Missoni, Science meaning and science education: a physicist point of view. Proceedings of the Meeting on Science in Primary Education, (Roma, 7-15/1/1976), Accademia dei Lincei, Roma, 1977.

2) C. Balsamo, Il Corso di perfezionamento in fisica e indirizzo didattico dell'Università di Modena, in La Fisica nella Scuola, vol. 1 (1973).

(Perugia, December 1975) on Physics Teaching in University Courses for Non-physicists (biologists, medical graduates, chemists, mathematicians, etc.). A third (Bressanone, June 1976) discussed problems of organising the first two years of degree courses in physics. These conferences certainly show a willingness, therefore, among teachers and researchers to rethink and refurbish university curricula for education. Similarly, the Italian Astronomical Society has promised conferences on astronomy teaching (Round Table on Astronomy Teaching, Bologna, 1974; Astronomy Teaching in the Secondary Schools. Methodological and Educational Problems, Naples, 1975), and announced the publication of an astronomy journal devoted to matters of popularisation and teaching.

We should note in passing, however, that this interest in educational matters on the part of university researchers may have negative repercussions unless it is accompanied by a proper analysis of the meaning and role of education. One such is the proliferation of specialist reviews of the type "..... Journal", or "..... Teaching" which, while they may be of some use at secondary school level are certainly unduly numerous and definitely useless for primary school teaching. In any case they clash with the parallel demand for an integrated approach to pre-university science teaching. It is, too, odd that researchers accustomed to scanning the literature in their own field so often fail to realise the enormous labour it is for teachers to look for reviews on education in all the separate specialised journals as well as in their own periodicals.

These are only a couple of examples of the universities' failure to apply the scientific attitude that obtains in their own research to research in education. It is, in fact, an inability to view the problem of teaching in particular and education in general that stands in the way of so many science faculties realising that "research in the educational area" is equal in worth and importance to scientific research as understood within the narrow sense of the term.

There are, notwithstanding, a few indications of a trend in the right direction in the dialogue between the universities and the schools. We may quote as instances the conferences "Science and Society" (Ferrara, 1973) and "University and School" (Salice Terme 1975) which moved over from the standard pattern of lectures given by university staff (and delivered mainly to "audiences" of teachers, who seldom voiced their own problems and experiences) to one of joint working groups of dons and schoolteachers in which questions of syllabus, method, content, integration, the teacher's role, the university's role, were hotly debated, though not without some mutual misunderstandings.

## II. SCHOOL-BASED CURRICULUM DEVELOPMENT IN ENGLAND AND WALES

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## INTRODUCTION

School-based curriculum development has, in the 1970s, become one of the major factors in curriculum development in England and Wales. Often unplanned and at times unnoticed, it nonetheless plays a significant part, even a major part, in determining the details of the curriculum followed in an increasing number of schools both at primary and secondary level. More importantly it has become a key instrument for the exercise of power within the school system. The purpose of this paper is fourfold:

- To consider the emergence of SBCD from its historical roots both within the school and the centralised curriculum development of the 1960s.
- To examine the conditions in which SBCD appears to flourish.
- To categorise some of the forms of SBCD and to illustrate their nature, its personnel and its practice. This illustration, constituting the central part of this study, presents a number of examples of the work currently taking place in schools in England and Wales.
- To consider some of the consequences of SBCD in the contemporary situation and to consider its importance for those who work in education.

## 1. THE EMERGENCE OF SCHOOL-BASED CURRICULUM DEVELOPMENT

The curriculum of schools in England and Wales has always been to a substantial extent determined within the school. The autonomy of the professional teacher is one of the most central features of the educational arrangements of England and Wales. Subject to broad constraints, the teacher has been trusted to "act professionally" to determine his own curriculum and methodology in a manner that is appropriate for the children he teaches, the community in which they live and the school and its resources wherein his work is undertaken. Yet the autonomy of the teacher in curriculum has until very recently been exercised as the freedom to follow a largely traditional curriculum. Professional responsibility has been believed to be best exercised by the adoption of tried and tested forms of knowledge that have stood the test of time. For almost a century, professional

autonomy has not, except in isolated examples, led to curriculum development in any regularly recognisable form. Writing about teacher autonomy in curriculum, Eggleston (1977) has said that "it tends to embrace beliefs that the knowledge, skills and values learnt by previous generations have a continuing and major validity in the socialisation of the young; that the curriculum possesses a 'mystique' into which the young are initiated and that, when received by those who are chosen to receive it, it will be of continuing relevance throughout their adult lives".(1)

Such a curriculum has usually been a subject curriculum comprising separate elements representing established disciplines or forms of knowledge that if not 'given' are certainly legitimated by practice. Teachers who have sought to use their professional autonomy to establish alternative or experimental curricula have found themselves, in most cases, obliged to work in the experimental or 'progressive' schools as Stewart (1972) has documented.(2)

But the passage of time has forced teachers in England and Wales, like those elsewhere, to reconsider their position. The pace of social change has in itself brought new imperatives. The curriculum in science changes in an age of electronics: the curriculum in mathematics has to display awareness of the computer revolution. Language studies must take heed of the transformation in media of communication. Changing social attitudes and values affect not only the motivations and values of students in the schools but also their response to curricula. The reorganisation of schooling both at primary and secondary level, with its emphases on de-streaming and mixed-ability teaching, also require teachers to modify and adapt long-standing curricula. Faced with such changes, the professional autonomy of teachers in the schools in England and Wales has been exercised in the pursuit of curriculum development in an increasingly active way in recent years. In consequence, it is easier to see now, rather than in the recent past, one of the essential characteristics of curriculum development in England and Wales - the school-based tradition.

Yet the spasmodic, unpredictable and at times unreliable nature of the school-based tradition of curriculum development led to the introduction of a new and even revolutionary device for curriculum development in England and Wales. This was the national development project initiated by the Nuffield Foundation in its attempts to bring about radical developments in science education to close the growing gap between the practice of science in the community and that in the school curriculum. The movement developed rapidly with the establishment of the Schools Council, a national body supported by central

1) J. Eggleston, 1977, The Sociology of the School Curriculum. London: Routledge and Kegan Paul.

2) W.A.C. Stewart, 1972, Progressives and Radicalism in English Education 1750-1970, London: Macmillan.

and local government that had as one of its two main purposes the development of curriculum in the schools of England and Wales (the other related purpose being the development of examination techniques). The work of the Nuffield Foundation, the Schools Council and a range of other national bodies concerned with curriculum development spread rapidly through the 1960s and in a decade became an established part of the educational life of England and Wales. The work of the decade has been documented exhaustively; the successes and failures of the movement are a perennial subject for debate. But the essential feature of the whole movement was the belief articulated by many theorists that curriculum development could and should become a planned and rational activity. To use the words of Walton and Welton(1) unplanned accepted curricula were to give way to planned, selected curricula. The objectives of various areas of the curriculum were to be identified through consultation, consensus on them reached, appropriate methodologies and contents identified and the objectives achieved in the classroom. This model was to be reinforced by a feed-back process of evaluation which all national curriculum projects came to adopt.

The simple logic of the early years of the movement can now be seen to be naive and unrealistic in the complex and changing world not only of curricula but of schools and their inhabitants. Perhaps one of its greatest unrealities was its failure to take account of the school-based tradition to which we have already referred and there is considerable evidence that the autonomy of the teachers in making use of the nationally produced curriculum materials, or even in interpreting the nationally agreed curriculum objectives showed an independence that had been quite unappreciated by many of those - including teachers - who were working at national level.

A study conducted by Shipman, Bolam and Jenkins(2) on the impact of a national curriculum project, the Schools Council funded Integrated Studies Project, howed a disparity between the expectations of the project organisers and the realities of the school. Even in the trial schools, in which the national team worked extensively, the use that the individual teachers made of the project materials was spontaneous and largely unpredictable by the central project team. Overall their usage was far less than that which the team believed to be the case; the materials were certainly used when the team was present but far less often when they were not. Even the declared enthusiasm of Heads to adopt the materials in their schools was by no means always put into practice by the teachers in such schools.

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1) J. Walton and J. Welton; (eds.), 1976, Rational Curriculum Planning, London: Ward Lock.

2) M.D. Shipman, D. Bolam and D. Jenkins, 1974, Inside a Curriculum Project. London: Methuen.

A facile interpretation of such a state of affairs is to suggest that the teachers were using their autonomy to destroy the project and to retain their traditional and perhaps less demanding ways of working. Yet the evidence did not and does not support this view. A more accurate interpretation is that teachers have a knowledge of the needs of their children, the resources available to them and their own personal capacities that is always more detailed than that of the members of a national development team.

More and more, national development project teams are coming to realise that the materials they generate will be welcomed by teachers but as a generalised resource to be used in conjunction with a wide range of other resources. It is claimed with some justification that the wide range of completed national curriculum development projects, with their packs of materials of various kinds, have increased the autonomy of the teacher by widening the range of effective choice of curriculum components available to him. Moreover, the ever-widening variety of schools and their resources extend, far beyond previous limits, the range of variables within which a teacher may find himself working and this too adds further reinforcement to the exercise of autonomy. This leads us to an inescapable paradox - that the heavily funded and wide-ranging national curriculum initiatives in England and Wales in the 1960s and early 1970s have reinforced the school-based alternative to centralised curriculum development. The autonomy of teachers and the long standing school-based tradition of curriculum development in the schools in England and Wales has in many ways been strengthened rather than diminished.

This state of affairs has come to be clearly recognised by national curriculum development teams as they have become increasingly dissatisfied by the failure of their earlier vision to "change the map of curriculum". Many strategies have been employed in an attempt to increase the 'impact' or 'take-up' of various projects - better communication, local groups of teachers, more support in the schools, and much else. But increasingly the solution has been seen to move to a totally different way of working where the focal point is the work in individual schools and the project team acts as a communicating mechanism helping teachers in different schools (but often with apparently similar problems) to relate to each other so that the stock of usable strategies and resources can be made more widely available. A Schools Council working party in 1972 recognised that the focal points of curriculum development, planning, administration and execution, was not the project but the school and that the Schools Council's role in curriculum development was in many cases complementary and contributory rather than central. This new official position was strongly reinforced by the realisation that teachers were often far more willing to participate, often at considerable

personal cost, in school-based rather than central curriculum development activities and that investment of resources and finance at this level was not only likely to be well used within the school but, arguably, to achieve a far more effective 'pay off' than the investment in national projects.

Closely associated with the recognition of the alternatives to centrally based curriculum development was the resources movement. An important feature of the new curricula, developed at national level in the 1960s, was the use of learning resources in the schools as aids to individualised learning. Many of these resources were the well-established devices of books, maps and periodicals, but others included press cuttings, hand-outs, slide tape packages and multi-media kits. Some, such as language laboratories, were expensive, others such as simply reproduced materials were inexpensive and could be made available in large quantity. One of the important second generation Schools Council projects was the Resource Centre Project based at the University of London Institute of Education, and its stated objective clearly displays the move from project-focused to school-focused initiatives:

> "to identify various problems which face schools and authorities wishing to develop resource centres, and to determine what have so far been found to be the most suitable and practicable methods of solving them, having regard to a wide variety of existing conditions. Special attention will be paid to indexing, storage and retrieval systems."(1)

The work of the project was based upon intensive work in six schools and visits to many others. Its main purpose rested in its emphases on the initiatives and distinctive approaches of the individual schools and the redefinition of the national bodies not as initiating agencies but as supporting agencies.

In much the same way as the Schools Council moved to a school-based orientation in the 1970s, so too did the Nuffield Foundation. In 1966 the Found tion established its Resources for Learning Project(2) examining how the resources available might be most profitably used within the schools. This led specifically in the early 1970s to the establishment of units such as the Resources for Learning Development Unit in Bristol.

Philip Waterhouse, Director of the Unit, so introduced the RLDU scheme to the public:(3)

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1) N.W. Beswick, 1972, School Resource Centres: Schools Council Working Paper No. 43. London: Evans-Methuen.

2) For a detailed account of this project and the theory behind it, see L.C. Taylor: Resources for Learning, Penguin, 1972.

3) P. Waterhouse: "How resourceful can you get" in The Times Educational Supplement, 4th April 1975.

The Resources for Learning Development Unit is an offspring of the Nuffield RfL project, born in September 1974, adopted by the new County of Avon and watched over by an evaluation team at Bristol University. The Nuffield project was established in 1966 for five years to investigate how educational resources might be more profitably used.

Three central policies characterize the work of the unit: the first based on the principle of intensive support; the second on the principle of continuous teacher involvement; the third on the evolutionary view of educational change.

The intensive approach contrasts with the "on demand", unselective and extensive policy adopted by many resources organisations. The unit has chosen to work in five subject areas - English, mathematics, social studies, French and science. During the four-year period it will produce materials for lower secondary pupils only, and according to a work schedule determined at the beginning. Its support is not available for any other projects, however worthy or urgent.

Teacher involvement has become a commonplace in the curriculum development world, but it is not so usual for teachers to be virtually the owners, the managers and the customers of the enterprise - in fact, members of a true co-operative. The formal structure for each subject is headed by a conference of all interested teachers, which elects the editorial board from its members, lays down broad aims and strategies, and receives reports on the progress being made. The editorial board has the task of using the guidance given by the conference to determine the framework of ideas within which the resources will be produced. It also provides a running commentary on methods and media, organises surveys of the work being done in the schools and sets up working parties to investigate particular topics or issues.

Much of the strength of the unit lies in its informal network of communications, which has grown quite naturally, frequently cutting across what might otherwise be the rather rigid structure of formal consultation. The [unit's] full-time editors have become involved in school planning meetings, teachers' centre activities, co-operative work with advisory staff, in-service education programmes, but above all in a great deal of informal consultancy about the making, using and organising of resources.

Throughout, the approach must be to recognise the possibility of radical transformations of the assumptions and concepts within which schools operate. Teachers need the opportunity to experience the practical alternatives, to make their own choices and thus to become personally involved in the history of these ideas.

Finally, an evolutionary view of education guides the thinking about the resource materials and the experiment itself. A fair amount of effort is devoted to early criticism and testing of learning materials but more attention is put on the successive modifications of materials after decent periods of use in various situations. This attitude rests on a disbelief in the perfectibility of learning materials, an acceptance that teacher's needs will change rapidly, and a conviction that understanding in new situations grows through trial and error, through learning by mistakes.

The Bristol Unit, like the Schools Council's project on resources, emphasises not only the core nature of school-based initiatives in curriculum development, but also points out the dynamic force for change that springs therein.

We have already alluded to the organisational change that has taken place in schools in England and Wales and referred to deschooling, mixed-ability teaching and comprehensive reorganisation. These are but some of the changes that have occurred; others are integrated days in the primary school, team teaching, students' choice and a wide range of other strategies.

It is argued that the move to SBCD in its contemporary form is not just a partial consequence of these organisational changes but that it has become in itself an important feature of organisational change. Certainly in the case studies that constitute the major section of this document, the evidence for this is presented in an inescapable form. Indeed, the path of curriculum development in England and Wales has constituted one of the major elements in organisational change in the schools, most notably in some aspects of the distribution of power. In the recent past, the Head or principal teacher of a school, as a result of his long years of professional experience, would have come to possess a reasonable understanding of the normal course of events of most areas of the curriculum. It would have been possible for him to talk with a teacher, or enter a classroom and make a fairly accurate judgment on the level of performance, the appropriateness of the stage in curriculum reached and the choice of materials being used by the teacher. But following the rapid expansion in the range of curriculum alternatives made available by national projects and other resources, the class teacher in the school has the opportunity to employ a far wider range of curricula than that which could conceivably be known to the single Head of the school or even the head of a large department. Moreover, the increasing diversification of the needs of the children in his class following comprehensivisation, de-streaming and other structural changes means that he alone can claim to understand their diverse needs. The person outside the classroom, however senior his

administrative position, is unlikely to be able to compete with him in knowledge of either subject or student.

For such reasons, the organisation of the school becomes more diffuse. A degree of power as well as autonomy rests within the individual teacher. Such an incidence of diversity presents many problems, not least of all those of accountability on the part of the school to its constituents outside its walls. Faced with such a situation the creation of a SBCD organisation within the school to devise, co-ordinate and implement a coherent set of curricula strategies becomes of great importance, and SBCD becomes not only an aid for the individual teacher exercising his autonomy and his professional responsibilities but also an aid for the school administrator who, as part of his professional responsibility, has to ensure sound teaching and learning. SBCD provides them with an instrument for the running of schools in the new conditions in which they find themselves. It has become not only desirable but also necessary, an essential aspect of organisational change within the schools.

Those organisational imperatives for SBCD are likely to become even more dominant as the new move in Britain for publicly available information of the achievements of schooling becomes articulated through the 'Great Debate' and associated initiatives. One important agency is the governmental Assessment of Performance Unit within the Department of Education and Science (the Ministry of Education). This Unit is attempting an ambitious task of identifying and monitoring the achievements of the various broad areas of the curriculum within the state schools. Its strategy is to assist schools to evaluate their performance not only in more measurable subject areas such as mathematics, science and language but also in such fields as aesthetic and personal development. But by alerting schools to the levels and nature of performance of their students, it is hoped that the schools will be given a further degree of assistance in the task of developing their own curricula in a coherent, effective and (perhaps above all) accountable manner.

This consideration of the present concern with accountability and evaluation and its important liaison with SBCD draws attention to a further strand of the history of curriculum in England and Wales - its links with a wide ranging community context. This context impinges on the curriculum through the needs of employers and their expectations of school leavers, the shared collaboration between the school and community leaders, the gradual incorporation of school pupils into the adult life of society and above all the concern of parents for the education of their children.

All these considerations have always been taken into account in the curriculum of the school; no school is an island and no teacher wholly autonomous - still less idiosyncratic. Yet, until recent

years, the development of the curriculum within the schools has experienced a certain isolation from the affairs of the community in which it exists. The traditional view of the school curriculum was one that augmented the world of the child in ways that were beyond the life of the community. The community provided the child with a range of first-hand experiences of work, leisure and home; the job of the school was to provide access to the world hidden beyond its bounds - essentially the world of history, literature, geography and the other understandings that could only be achieved through the help of the teacher supported by books.

But in contemporary society the situation has been reversed. The child is often very rich in 'second-hand' experiences achieved through the mass media, most notably television. Indeed, in his home he has access to a richness of second-hand experience that can seldom be surpassed by the teacher in the school. His lack is more likely to be that of the first-hand experience that was so abundantly available in an earlier generation. He is unlikely to be able to see adults at work other than perhaps, fleetingly, the postman or the milkman and in all probability, within a decade, even such workers will be far less evident than as of now.

The task of the curriculum in many schools now becomes one of providing the missing first-hand experience of work and life in general and the widespread incidence of projects on industry, on leisure and on the community that abound in schools in England and Wales bear testimony to this fact. A very considerable amount of SBCD is designed to provide such experiences in the most appropriate nature and here the concept of SBCD as an integrating activity in which the community shares with the school is of growing importance. To appreciate this is essential to an understanding of the present forms of SBCD.

In this first section of this report we have looked at the history of the SBCD of England and Wales. We have considered the central and continuing school-based equivalent, we have shown how this tradition has been reinforced rather than diminished by the important centralised curriculum developments of the 1960s. We have shown how SBCD is not only influenced by organisational change in the schools but also itself has become an important agency of organisational change; and finally we have noted how, in its most recent forms, the concept of SBCD has become one that involves an integration within the school community as well as, of course, within the school itself.

What then is SBCD in its present form? It is an essentially school-based, community contexted, activity in which the detailed strategies for a curriculum appropriate to the needs of the individual children in the specific school, or even in the specific units

of a school, are developed by a process of co-operative discussion, planning, trial and evaluation. It is a process that may be aided by a planned utilisation of resources of the school, resources that spring from its architecture and location as much as from its opportunity t use the materials developed by national curriculum development agencies, commercial resources and the initiatives of local and central government. It is a process that reflects the problems of the school and its clients. It is certainly a process that responds to the challenge experienced in many schools to provide a curriculum that motivates and involves the pupils and that also encourages the teachers to give of their best. Above all else, it is a curriculum that is achieved rather than ascribed, that is developed actively rather than received passively. In short, it is a dynamic element within the school that has been largely created therein and for which the school is collectively responsible. More than any other form of curriculum development, it is an instrument by which the school accepts accountability and upon which its performance may be judged.

## 2. THE CONDITIONS IN WHICH SCHOOL-BASED CURRICULUM DEVELOPMENT APPEARS TO FLOURISH

The previous section charts a sequence of events that could justify the emergence of SBCD in almost any school in England and Wales. Yet, though SBCD in some form or other is now fairly common, there are many schools in which it does not exist at all and still more wherein, at most, it only occurs rarely and spasmodically. It is therefore necessary to ask the question - what are the conditions in which SBCD flourishes?

Perhaps the first condition is a clear realisation of the need of SBCD. This may spring from many causes, some of which remain imperceptible until a certain stage in the life of a school. Thus R.W. Forward, Headmaster of a junior school in which SBCD is now well developed, writes:(1)

> To achieve the goals we had set ourselves demanded considerable alteration to the curriculum and organization of the school. As we worked ourselves towards a viable organization and curriculum through team discussion and classroom innovation a number of demands and restraints began to emerge.
> The demand which seemed to us to be central to the achievement of our goals was the need to individualize the work of the children as much as possible. If we were to base our teaching

1) R.W. Forward, 1976, 'A time for change' in J. Walton and J. Welton (Eds.), Rational Curriculum Planning. London: Ward Lock.

on the needs of the child then our first task must be to get to know the children well - and if we were to answer personal and social needs as well as academic needs then we had to get to know the children as people, not merely as scholars. This translated itself into the need for a teacher to work with individual children often alone but also in small groups. This called for a flexibility of grouping which one teacher alone in the enclosed classroom was unlikely to achieve. Thus flexible grouping was a prerequisite.

The need for flexible grouping was also echoed in another demand. The creation of proper interests and enthusiasms was to be one of our goals. The ability to group children with others pursuing the same interest demanded that we be able to create groups from a wide selection of children, more perhaps than one would find within one classroom.

The ability to respond to varying needs in the children also demanded a wide range of skills and interests in the teacher. The question arose as to whether as the children grew older one teacher could assemble all those skills and interests.

But such a need must not only exist; teachers must recognise that it exists and be ready to respond to it. We have already emphasised the autonomy of teachers in England and Wales: autonomous teachers may well be encouraged and even inspired to participate in SBCD, they cannot be forced to do so. There is also little doubt that their enthusiasm may be reinforced if they see that adequate support - administrative, material and moral - is available. Good resources, adequate professional and non-professional staffing and sympathetic leadership inside and outside the school seem to be important concomitants of enduring SBCD.

The involvement of parents too is seen to be important. Holt, writing of SBCD in a comprehensive school, comments:(1)

> Right from the start, then, it was clear that if new departures were to be made in the school's curriculum, it would be essential not only to explain them to future parents but also to try to convince them that, bluntly, the risk in sending their children to a school with new ideas was worth taking.

Parental support may also be useful in the practical implementation of SBCD. Recently a comprehensive school instituted a resource preparation in it as part of its SBCD programme. The poor acoustic qualities of the only room available presented serious difficulties in the preparation of audio resources. On hearing of this difficulty,

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1) N.J. Holt, 1976, 'Curriculum development at Sheredes School' in J. Walton and J. Welton (eds.), Rational Curriculum Planning, London: Ward Lock.

the parents' association, already in sympathy with the scheme, raised funds to enable the room to be fitted with carpeting and acoustic panelling.

Effective liaison with the schools from which the SBCD school draws its pupils - and the schools and other institutions to which they proceed - is also vital. We have already emphasised that no school is an island; if SBCD attempts to make it so then surely its students will be the first victims of its self-imposed isolation.

Faced with the many variables that can affect the introduction and subsequent survival of SBCD, it is clear that the enthusiasm of the individual teacher, his enthusiasm and his readiness are central. Not only are such personal characteristics necessary to ensure an adequate level of individual participation but also the degree of collective responsibility that is accepted and 'internalised' by the individual rather than being attributed to 'them'. In short, the teacher must be 'inner directed' rather than 'other directed'. In reaching this conclusion it is useful to remember that we are not making yet another unrealistic idealist prescription. In the realities of school life the inner direction of the teacher may spring not only from high pedagogical principle but also imperative self interest. The search for a solution to new and pressing problems in the classroom or even the search for personal survival may well lie at the heart of some of the most successful SBCD programmes.

## 3. THE FORMS OF SCHOOL-BASED CURRICULUM DEVELOPMENT

Let us now look at a range of examples of SBCD that will enable us to see the forms in which it occurs and to identify its nature, its personnel and its achievements.

SBCD takes two main forms:

1. Where the main imperatives have sprung predominantly from outside the school but where the initiative has been taken up in a distinctive manner within the individual school;
2. Where the initiative has sprung almost wholly from within the school and remains largely distinctive, if not unique, to that school.

Both of these main forms have several variations. Form 1 can be seen to occur:

a) As the direct by-product of a national curriculum development project. Here SBCD is set in motion by the project but takes off in distinctive ways in different schools and the schools are encouraged to 'do their own thing' within the ambience of the project. Here the spin-offs in SBCD of the Schools Council Science 5-13 Project will be considered as an important example of this variation.

b) As a school-initiated response to a national project where the school, having been involved in a national curriculum development project, goes on to develop its own distinctive development, taking the ideas further, in many cases transforming them far beyond the vision of the national team. Here the school is distinctively adapting a nationally initiated curriculum to its own specialised purposes, enhancing its strengths or alleviating its shortcomings so that they may be more appropriate to its special needs. As an example of this important form we shall consider the ways in which the Independent Learning in Science initiative developed at Wreake Valley High School in Leicestershire.

c) When a school itself becomes and 'takes over' the main focus of a national project; where the project itself is transformed into a SBCD exercise. Here the work of Nailsea School, in which a national Schools Council project on the environment of learning turned into a major school-based in-service training and curriculum development exercise will be considered.

Form 2, where the SBCD springs wholly from within the school, also has several variations:

a) SBCD that arises from the specific decision of the school to operate courses and teach in a distinctive way, a decision that places the school within a set of requirements different from those of most other schools. If these distinctive strategies are to be implemented, then the school is faced with the need to help its teachers to explore these ways to the full. Specific strategies for curriculum development have to be generated from within the school. Here details are given of the Abraham Moss Centre at Manchester, a school in which a policy decision was made to introduce individualised learning based upon a comprehensive range of resources available both to teachers and students. SBCD was needed, not only as a means of helping teachers to explore these new approaches, but also as a basis whereby the approaches themselves could be further developed.

b) SBCD that arises from the specific teaching needs of the school - a school that finds itself in a distinctive catchment area with specific local needs with a group of children who have problems or advantages that are not generally to be found, or where the school has a particular concern for aspects of student development that are not generally sought. In such cases an important emphasis is based upon curriculum and upon teacher development. Such a school is Manor Park School at Newcastle-upon-Tyne and detailed information on this school is presented.

We shall now consider these forms and their variations in turn.

1a) School-based curriculum development springing as a direct by-product of a national project

Examples of this form of SBCD may conveniently be obtained in the field of science education where national projects appear to have had greater success than most others in triggering off distinctive school initiatives in developing the curriculum. A useful example arises from the work of the Schools Council Science 5-13 Project, a major national initiative commenced in 1967. The project was established to "consolidate and extend the work on primary science teaching initiated by the Nuffield Junior Science project, paying particular attention to the needs of older junior pupils, and pupils in the early years of secondary school. The main work of the project has been to identify objectives for guiding pupils' education through science, to relate them to stages in pupils' educational development and to exemplify ways in which these objectives might be achieved. The aim of the development work has been to assist teachers to help children, through discovery methods, to gain experience and understanding of the environment and to develop their powers of thinking effectively about it."

The trials of the materials produced by the project took place in a number of schools in England and Wales. Twelve of these were in the county of Staffordshire where the enthusiasm of the County Adviser for science had encouraged schools to offer to take part. The twelve Staffordshire schools were in three groups of four; a group leader, one of the teachers in each school, was elected from each group and went on an intensive course organised by the national project team. The group leaders, along with the Science Adviser, met at three-weekly intervals to discuss the development of project work in the schools and were in close liaison with the national project organiser and his colleagues.

Following the trials, which were conducted along the lines required by the national organisers, a summer school at a local college brought together most of the teachers in the trial schools, and some also from other schools who were interested, and enabled them to establish extensive contact with the national team. The three group leaders played a major part in this summer school which was followed by still more extensive trials of the project materials on a similar basis in the following year. But at this stage the initiative was being firmly grasped by the teachers in the schools themselves, not only the group leaders but a number of others also, so that within the trial schools the material being produced came increasingly to arise from the initiatives of the teachers and the requirements of the schools rather than remain pre-determined by the national project team.

The formal meetings taking place when the focus of the project was centred on the national team gradually gave way to a series of school-based initiatives in which the teachers, though still working within the broad lines determined by the national project, were evolving a series of distinctive curriculum strategies for teaching science in their schools.

This became still further the case when the local authority adopted a policy of introducing middle schools for children in the age range 8 - 13. The need to work out distinctive curricula for these new schools became an important and urgent task. The authority allowed them considerable autonomy in making their curricular decisions, and the opportunity to develop appropriate science curricula was taken up fully by the teachers who had initially been drawn together under the banner of the 5-13 project. The detailed programmes of meetings and consultations within the individual schools are, as is characteristic in SBCD, not available in detail. Some of the most important discussions occur spontaneously and informally in the staff room, in corridors and in the homes of teachers working after normal school hours. Of the intensity of the discussions there is little doubt and the results are clearly to be seen in the Staffordshire primary and middle schools. Some of the more tangible results are also to be seen in the form of a range of booklets that the teachers have produced collectively for use in their schools. Entitled Children Investigating, some 40 of these have been produced cheaply for use by pupils. The initiatives still continue and the informal liaisons achieved between the various schools in which this development is taking place have led to the development of a teacher's guide that will accompany the booklets. (This volume was scheduled for production in 1977.)

A somewhat similar pattern of events occurred in another national science curriculum development project. Entitled 'Working with Science', this project set out to invite groups of teachers to come together to produce curricula and appropriate materials for use by the less academic pupils who have been staying on after minimum leaving age in increasing numbers. It was founded comparatively recently by the Nuffield Foundation and takes into account far more fully than many earlier projects the important need for initiatives to spring from within the school rather than arriving from outside it. Guided by the experience of projects such as Science 5-13, the project's model from the outset was to work within the schools, and groups of teachers were set up with a clear understanding that they would be working collectively yet producing materials with their own schools and their own needs in mind. Initially, the workshop groups were formed in Manchester, Staffordshire, Gloucestershire, Leicestershire and Hertfordshire. Each began with a three-day

writing conference in which the central team of the project explored not curricula but methods of producing materials. In the three years of the project's life. the workshop groups have produced some 40 units, tried them out in a number of schools, revised them and evaluated them and made them available through a distribution system established by the central team to each other and to other schools. Some of the titles of these units are: Crime Detection; Re-cycling; Water Shortage; Science and Old Age; Feet and Footwear; and Brewing. The units have been produced essentially as a result of the initiatives of the teachers with the assistance rather than the direction of the central team of a variety of local authority co-ordinators and, in some cases, of facilities provided by teachers' centres and teacher training establishments. The teachers in the schools not only determine the style of the unit but also the style of response open to students. This may range from filmed reports, tape-slide sets, and exhibition displays to radio or newspaper reports.

Perhaps the most interesting feature is that the project approach has spread far beyond the initial planning of the central team, and a number of schools in England and Wales, without any direct link with the project and without any central funding, are busily producing their own curricula through processes of in-school discussion parallel to those adopted by the project. Thus Queen Mary College, Basingstoke has produced a wholly school-developed curriculum unit on weather. Thames Valley College, Richmond, has produced a course unit on cosmetics and a group of schools working together in Hebden Bridge, Yorkshire, have produced an extensive curriculum package on the study of the local industry.

### 1b) School-based curriculum development where school initiatives build upon existing national curriculum projects

This form of SBCD is different in an important way from that which has been discussed so far. Here the schools are finding an existing set of curriculum development materials and then, entirely upon their own initiative, building upon it without the aid of the central project team. Indeed in many cases the project will have terminated by the time the school-based initiative begins. Again it will be convenient to illustrate this variation by reference to projects in the field of science, both of them in Leicestershire comprehensive schools. In one, Wreake Valley High School established in 1971, the six science teachers initially appointed were enthusiastically in favour of the Nuffield Combined Science approach. An existing project was available, books and other materials already prepared. Yet after considerable exploration, the teachers found that the published materials failed to meet the needs of their students. Working in mixed ability classes consisting of the whole range of student



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abilities, teachers found that many of the less verbally competent members had considerable difficulty in handling the language of the published books. They also found that, on occasions, ideas that were readily accessible to the children in their everyday lives were expressed to the children in a form that made them unrecognisable to the students. In consequence, they were inspired to write their own materials - a decision reinforced by the considerable expense of published materials and the pressing claims on the science curriculum budget at the inception of the new school.

At first the materials were not more than a modification of the Nuffield Combined Science approaches: simplifications, extensions and local applications. Some of the early materials were in fact no more than a paraphrase of those in the books thus "the random movement of molecules in liquid" became "molecules tumbling over each other in liquid". The process of curriculum development was again informal, unstructured and largely unrecorded. Cyclostyled paper succeeded cyclostyled paper. Collections of such papers were assembled, they were constituted into resource books with which individual children could learn more readily. The evaluation was encouraging. Teachers, encouraged by the success of their materials, gradually established the whole science curriculum in their new and distinctively school-based form. News of their endeavours spread and many visitors were attracted to the school to see for themselves the way in which the process was taking place. Carrying away armfuls of the duplicated materials generated by the teachers, they in many cases departed to adopt similar approaches. Eventually the repute of the materials became widespread and school science teachers were invited to prepare the materials for book publication. The science staff, by now doubled to a team of twelve, divided itself into three teams; each team produced one volume and the three volumes were produced by a commercial publisher and are now enjoying very considerable success.(1) Many schools are finding their clear illustrations and simple presentation of value.

In a sense it could be argued that the informal but effective approach of the SBCD in science at Wreake Valley have turned out to be a national project in reverse and indeed this could be the not unattractive fate of a number of the endeavours springing from within a school. Many would no doubt argue that this was in fact a better way to achieve a nationally available set of curriculum materials. But here the important part is the process; a process that continues within the school and which has spread not only through the science team but also to many other areas of the school curriculum at Wreake Valley.

1) D. Tinbergen and P. Thornburn (eds.), 1976, Integrated Science Books 1, 2 and 3. Wreake Valley School Science Department. London: Edward Arnold.

Elsewhere in Leicestershire another school-based initiative is the Independent Learning in Science project. Here a number of schools have worked together in the same informal but effective ways as the teachers at Wreake Valley. The aims of ILIS embody some of the classic practice of SBCD:

> The primary aim of the organisation is to support and stimulate the development of independent learning in science education in secondary schools, technical colleges, and in any other educational institutions where it is felt such methods are applicable. An equally important aim is to enable teachers to effectively co-operate in the production of the necessary resources and to facilitate their distribution. Such a co-operative effort has many important spin-offs in terms of the viability and relevance of the learning resources produced. From the start of the new ILIS organisation it was considered that in this new kind of curriculum development, localised, and responding directly to teacher need and initiative, fundamental to the organisation and of primary importance would be the Workshop/Resource Centre. Having set up some 20 such centres, and seeking to establish many more, it is apparent that ILIS still considers this to be a matter of the highest priority. A workshop consists of two or more people working together on a particular unit or course in science to produce resources for their use in independent learning. One of the aids produced by the central organisation of ILIS to assist the formation of workshop groups is the Directory. The Directory gives comprehensive details of all science teachers and others interested in independent learning, with a full description of the extent of that interest, so that like-minded people within a given area can get together in a workshop situation.

One of the main centres of ILIS is Countersthorpe School which is well-known for its radical initiatives in the curriculum. Here a thoroughgoing individualisation of learning and a keen desire to decompartmentalise the curriculum gave a special emphasis to the project. A particular feature of ILIS is the opportunity it gives for student initiative. The student is offered a wide choice and the project is guided by a realisation that interest is the prime motivation for achievement in the curriculum. Accordingly from the outset the groups of teachers developing ILIS materials constantly ask themselves the question 'Are we giving them something to be interested in?' Another feature of the project is its emphasis on success at a wide range of levels. The concept of failure, which forms a not unfamiliar part of the experience of many young people who are learning science, is largely eliminated from the materials.

In describing these features of the ILIS project one is illustrating one of the central features of SBCD, namely that it cannot

only respond to the organisational and social need of the school situation but can also contribute to the distinctively ideological goals which the school has set itself. Here Countersthorpe and a number of the schools associated with it in ILIS are able, through their science curriculum, to embody their particular concern for a thoroughgoing equalisation of opportunities for all their students.

### 1c) School-based curriculum development taking over a national project

One of the most remarkable nationally-funded curriculum development projects was the Schools Council project directed by Elizabeth Richardson, a psychologist with strong analytic orientations. It was intended to explore the ways in which the management of schools could be developed at a time of major administrative and staffing changes. The project was wholly based at Nailsea School, a large comprehensive that had, until recently, been a grammar school. The study at Nailsea turned into a detailed, long-term organisational analysis of the structure and relationships of the staff in which the staff themselves undertook the major burden of the analysis with Richardson acting as a consultant. In an extended period of examination, the staff, guided by Richardson, faced a range of issues that were of concern to them in their work in the school - problems of identity, discipline, role, competence and, centrally, problems of power.

In this remarkable programme of intensive school-based curriculum development, Elizabeth Richardson's questions provide perhaps the most illuminating guide. These included:

> How can staff ensure that the conflicts as well as the mutual supports can be open and therefore potentially creative rather than secret and therefore potentially erosive?
> The real problem about the increasing size of schools is not just that there are more people around. It is the leadership that must be dispersed more widely.
> How does a headmaster, having delegated important tasks to colleagues who operate as leaders on the boundaries of sub-systems within the school, provide the overall leadership that they still need?

The study ended in 1972 and the report of the project was subsequently published as a book.(1) This is well known and it would be unnecessary and probably impossible to summarise such a lengthy document in the space of this paper. An indication of its nature can perhaps be shown by some of Richardson's conclusions. She strongly

1) E. Richardson, 1973, The Teacher, the School and the Task of Management. London: Heinemann.

emphasises the continuous process of consultation that is required within a school: 'something far more complex than 'having a say in decision making'. Essentially it is a kind of self-education. It therefore involves a commitment to learning that is bound to entail pain and struggle." From this, Richardson develops the idea of the "continuous staff conference'. This is seen to be a body in which the fundamental thinking of the school occurs; she notes that "re-thinking must take place in the schools themselves". The object of the exercise is seen to be not only self-understanding but accountability. "In the last resort the staff of the school must be answerable to the pupils who leave them to enter the adult world."

Though Richardson's further attempts to develop this important version of SBCD have as yet not met with success, there is no doubt that the study and the book that follows it have evoked widespread interest: aspects of it, adapted by the schools in the way Richardson advocates, are already powerfully influencing a number of SBCD programmes. The increasing willingness, not only of national bodies such as the Schools Council but also of local education authorities, to make funds available for school-based curriculum development and in-service training may, in part, be seen as a consequence of the Nailsea Study which demonstrated convincingly that investment of public funds in SBCD can offer particularly fruitful rewards. It may be some time before other schools are willing to enter into the particularly intensive and often painful kind of self-analysis along the lines of the Nailsea model; meanwhile there is little doubt that even more modest forms of such an experience can offer much that is of considerable value.

2a) <u>School-based curriculum that arises from the specific decision of a school to operate courses and teaching in a distinctive way</u>

As we have noticed, such a decision imposes upon a school a set of requirements different from those of most other schools. If the distinctive strategies are to be implemented then the school is faced with the need itself to develop the new curricular approaches that it invokes, for help is unlikely to come from outside agencies such as training colleges, teachers' centres and universities, which have to serve more general needs and are seldom able to respond adequately to 'one-off' situations.

Here we give details of the Abraham Moss Centre at Manchester. This is a combined school and community college where a policy decision was made to introduce individual learning based upon a comprehensive range of resources which, through multiple access systems, was to be available, not only to teachers, but also to students in a particularly readily accessible manner.

The Abraham Moss Centre soon identified itself and its objectives - "as a unique institution, catering for the local community in the area of secondary and further education, we have been placed in the position of breaking new ground in education. Our aim is to become a Centre of Learning in the fullest sense, offering a whole range of courses to suit people's different abilities, and different interests and needs."

These objectives involved a number of distinctive approaches. In the Centre's own words:

> We are most favourably placed to become such a Centre of learning, possibly the first in the country, meeting the needs of different groups in different ways. We are already aiming to help our pupils in school to know how to organise the development of their own learning and, given that some students, because of their ability or because of the type of course they are following, will always need more teacher help than others, it seems eminently sensible to organise the education we offer to people in the area on a discriminatory basis in terms of teacher contact.
>
> In practice this would mean amongst other things, that we would:
>
> i) provide regular and close contact with the teacher for those students who need it most, whether because their basic skills in terms of literacy or numeracy will not allow them autonomy, or because they need the teacher's constant help and guidance in laboratory work, technical work, craft and other creative arts;
>
> ii) provide packaged or plug-in courses for those students who are capable of working at home for part of the time, and in those subjects or areas of subjects where that is possible - so that a course might vary from 80 per cent centre study with the teacher, and 20 per cent home-directed study, to 20 per cent tutored study with the teacher and 80 per cent home-directed study;
>
> iii) make facilities and accommodation available to groups in the community who wish to make use of them on a self-supporting basis and to groups who wish to make use of them on the basis of occasional teacher help and advice. The group which meets year after year because it enjoys the social occasion of, let us say, a dressmaking group should not be discouraged from doing so. The need to meet is there. It may not however warrant the time of a full-time teacher when there are other groups whose greater needs we may not be able to meet because of the lack of a teacher;
>
> iv) be able to expand our teaching force and our influence beyond the finite limits of the walls of the Centre, and meet the needs of people throughout the area more flexibly and effectively.

Obviously, we have a long way to go before we reach such a goal, and much thought and planning needs to go into its achievement during the next few years.

A central task for the Centre from the earliest days - even before students had entered - was to help staff to define and achieve these aims in practice, and particularly to use the resource based technique. The chosen instrument was an on-going, in-service programme. One aspect of this, the in-service induction course, is described in a memorandum from the organising tutor to the Warden:

The aims of the in-service induction course are as follows:

a) To make staff aware of the nature and possibilities of resource based, mixed-ability, independent learning.
b) To show them how to create and structure teaching materials and learning programmes to facilitate this kind of teaching.
c) To show how the Centre library can become a learning/teaching area and be used as such by pupils. But also that skeletal guides which might appear in the structured material could make use of the library when learning programmes are being constructed.
d) To demonstrate the nature and scope of the audio-visual services (hard- and software/printed material/T.V. etc.) and to show how this could be used by staff to service their teaching needs (i.e. to accommodate new teaching style/to enable greater flexibility of teaching and learning/to allow true mixed-ability teaching to take place).
e) To give staff an insight into the varied and numerous alternatives to the traditional ways of teaching and to look critically and imaginatively at these alternatives.
f) To give staff a chance to make items of teaching material of practical use to themselves during the 5-day course.
g) To make the course flexible so that
   i) staff can choose areas they wish to go to (on 2 of the 5 days)
   ii) carry out some self-training on their own.

Many other courses were run. A typical in-service course was Relationships with Pupils - Techniques and Perspectives. Some of the questions it dealt with were:

"In groups how do you assess your ability to establish a relationship? Do you shout too much? Shout enough? Talk too much? Talk enough? Let your emotions have an effect? Not use your emotions enough?"

"Do youngsters consider you fair? Do you consider their view of this or any other view of you important?"

"To what extent are you able to argue and reason with youngsters? At what point do you feel that 'enough is enough' and how do you assess when that point has been reached?"

"To what extent do you feel that 'being a teacher' prevents you from developing a straightforward relationship with a youngster. Are there occasions when kids ought to regard you as someone special because you are a teacher?"

"Do you feel that you are kept fully informed about what is happening to these youngsters? To what degree do you inform people fully?"

"Do you find the whole age range easy to deal with? Do some age groups give you a much easier time/a much harder time than others?"

"What is your reaction when a kid swears at you? Does your view change if this is in front of a group as opposed to privately?"

Not surprisingly, school-based curriculum development at the Abraham Moss Centre had to concern itself with a wide range of technical data especially in connection with the use and development of resources. An excerpt from the course on Choosing and Using the Media makes this clear.

> The aim of this session is basically to enable you to familiarise yourselves with the MEDIA available in the Centre. If you wish you may spend some time familiarising yourself with all the media available. Alternatively you may wish to concentrate on one piece of equipment only. However, by the end of today's session you will need to have prepared a teaching item. This will be used for analysis and discussion. It would also be very worthwhile if it relates directly to your current teaching requirements and can, therefore, be used.
>
> 1. A ricoh synchrafax sheet
>
> Prepare a recorded story and use the white side of the sheet to illustrate, appropriately, this recording. In pencil please. Briefly plan out where, when and how you might use this form of media in the learning situation.
>
> 2. Language master cards
>
> Select those words from a suitable story/extract ... etc., which are to be recorded. Briefly plan out how, when and where you might use the cards and their relationship with booklets/software and other media.
>
> 3. Taped recording
>
> Select a cassette or reel tape recorder (the one you consider appropriate) and record suitable material. This might be a short story or a play or other stimulus/learning-tutoring activity. Plan out briefly how, where and when this media may be used.

4. Tape-slide sequence

Prepare, edit and produce a cassette tape in conjunction with selected slides. Use the pulser or caramate to synchronise the oral and visual material. Note down briefly how, when and where this might be appropriately used.

Remember to include in your work plan who the media/material is to be used for."

But at Abraham Moss Centre the students too must be able to produce their own resources, and resources to help them to do so are also important.

It is clear that at the Abraham Moss Centre, school-based curriculum development is multi-faceted. It aims to help teachers better to implement the distinctive objectives of the Centre. It aims to help them also to play a part in the continued development of objectives and practice. Finally, it aims to help teachers the better to help students to respond. The Warden, in a recent paper, draws together some of the likely long-term consequences.

> Even at Open University level many of the more academically oriented students drop out not because the courses are too difficult but because they are incapable of organising development of their own learning to the extent required. We need to train our students even at the secondary school stage, as we are attempting to do now in our secondary school, to develop the skills of learning and using resources, and gradually, step by step, structure increasing opportunities for them to organise the development of their own learning so that they achieve an increasing independence of the teacher. We may then have sixth form and F.E. students who know what to do with their private study time; college, polytechnic and university students who no longer undergo the traumatic experience of a first term when they feel as though the teacher has been taken from under them; and adults who, on leaving school, are capable of some autonomy in the design of their own curriculum, making effective use of the many and varied opportunities for learning made available to them throughout life. To this extent, resources for learning may not remain as mere 'teaching aids' but may change significantly the face of education in our rapidly developing technological society.

2b) School-based curriculum development that arises from the specific teaching needs of the school

One of the features of school-based curriculum development is that, at its best, it is not only directed to long-term needs of the school but it is also able to respond to the more immediate and often

short-term problems that arise within it. In consequence, the programme is seldom likely to take the form of carefully documented arrangements planned in advance. Neither is it likely to have lengthy and detailed evaluative strategies.

Teacher development is an area that characteristically calls for immediate attention. Forward (1976) writes: "The deployment of staff was the key to the changes of organisation that took place. The school had been designed for teachers to work alone in individual classrooms. Some sharing of the practical space provided for each pair of classrooms was intended. In fact, because of enlarged number, the practical space was inhabited in most of the units by a third teacher. We now developed in the second, third and fourth year junior units a full teaching team of three teachers each having some amount of help from part-time teachers or the head. Each team would have charge of from ninety to one hundred children."

A good example of a programme focused on teacher development is that of Manor Park School, Newcastle-upon-Tyne, England. In this large, mixed comprehensive secondary school, a well established and well regarded school-based programme has been running for the past two years. The Headmaster, Mr. Patrick Eavis, is convinced of the value of such a programme,as is his staff. A particular feature of the programme is the way in which the school is able to recruit outside experts to assist it in its training, usually in a voluntary capacity (though funds were available for visitors to the course Becoming a more effective Form Tutor).

The programme at Manor Park for the present academic year (1976/77) contains six major activities:

1. Becoming a more effective Form Tutor. This was a course instigated for the eight Second Form tutors and supported by two lecturers, one from the local university and the other from the local polytechnic. It consisted of

a) group discussion (1 hour);
b) observation of teachers in action by two lecturers and informal discussion (1 session);
c) report from observers;
d) group discussion (1 1/2 hours).

2. The Needs of Slow Learners in Mixed-ability Groups for Lower School Humanitities Teachers. This programme consisted of:

a) Initial visit of Head of the Local Education Authority's remedial service to observe mixed-ability teaching - informal discussion (1 session);
b) Group discussion and assessment of materials in use and methods with the Head of the Remedial Service (1 1/2 hours);

c) Individual teachers' preparation of 'model' assignments for use in a mixed-ability class;

d) Further discussion with the Head of Remedial Service which will take place later in the year.

3. The Preparation of tape/slide Sequences. This had originally been advertised as an afternoon course in the Newcastle Teachers' Centre. It was requested that it should be run after school at Manor Park when 16 of the teachers at the school experienced a keen interest.

4. The work of the Educational Psychological Service. This consists of a series of lunch-hour discussions where 18 teachers discuss with educational psychologists, psychiatrists and social workers the nature of the work in the Service. Though on-going, it has already led to clarification of work of service for teachers and the improvement of psychological reports on referred pupils.

5. Combined Science in Lower Schools. At the request of teachers, this consisted of a local authority science adviser spending two days in school observing teaching, talking to staff and pupils and looking at children's work. A report has been drawn up and discussed. It is expected that this discussion will result in setting up of working groups to work with the adviser to improve materials, methods and evaluation.

6. A course in mathematics along similar lines to (5) above. Quite apart from these timetabled activities there is a wide range of other, even less formal, in-service activities. For example, the Humanities team in the Lower School at Manor Park regularly call upon outside advisers to help them both inside and outside school hours in the development of their teaching programmes. The English Department have devised their own programme of evening seminars with discussions led by themselves and visiting specialists.

The Headmaster writes: "These are all modest but significant ventures. In no way do they preclude teachers from going on courses outside the school, but when they do we expect them to lead a departmental seminar. In addition we use students much more than most schools and the inevitable dialogue between students, lecturers and teachers is invaluable. We have had discussions with two schools of education lecturers on the possibility of setting up an advanced diploma course of some kind within the school with the current work of the teacher, its development and assessment constituting the main parts of the course. We are hopeful that something valuable will come of it."

One of the strategies of staff development that is taking place at schools in Newcastle and elsewhere is the designation of a senior teacher as a professional tutor. The main function of the

professional tutor is to take special responsibility for the induction of newly qualified teachers, especially those in their first or probationary year of professional appointment. Yet though the function of the professional tutor is in some senses prescribed and limited, it is clear that in some schools he is coming to display a distinctive role in SBCD, especially those aspects concerned with staff training and deployment.

## 4. CONCLUSIONS

We have here presented the evidence of a number of examples of school-based curriculum development. The selection of these cases to illustrate the various forms of SBCD had an element of chance; some schools and their work were either well-known or available to the author; unquestionably other schools could have been substituted for them. Yet it is believed that the sample eventually achieved is as likely to be representative as most that could be drawn together in so diverse and unstructured a field of practice. Certainly the examples have a number of common features. They all indicate the unevenness of the process of SBCD; they also illustrate the gradualism and the pragmatism that characterise the process. Holt (1976) describes the process in his school as "moving forward as best we could with the usual mixture of intuition and lots of talking ... We had to strike a compromise between what we could derive from our theoretical ideal and the pragmatic consideration of people, space and the likely effectiveness of our proposals".

All the examples give an indication of the heavy labour and even hardship involved. SBCD imposes severe burdens upon teachers and on schools, as Skilbeck(1) has noted. He writes: "the task is complex and difficult for all concerned. It requires a range of cognitive skills, strong motivation, postponment of immediate satisfaction, constructive interactions in planning groups and emotional maturity". As we have seen, role adjustments of quite a fundamental nature are called for and are indeed inescapable once the process has been put in motion.

Yet it is clear that there are some tangible 'pay-offs' with which such efforts are rewarded. Forward (1976) in his appraisal writes:

> Staff attitudes have changed in four fairly distinct phases. We approached the team unit idea with some doubt and reservations, we gradually became more enthused about its possibilities, then for a while some of us became almost messianic over its

1) M. Skilbeck, 1972, School-Based Curriculum Development. Mimeo, unpublished. Coleraine: University of Ulster.

potential. We have now reached a fourth stage, in which we are confident enough in the system as a basic concept to be able to be frankly critical of its faults without feeling threatened as a school. For instance we can see the need for more structure for those children just below average ability who find it rather difficult to manage some of their own work patterns. We know that children need a great deal of help in mastering the use of library systems. We know that keeping accurate records of children's progress in this fluid situation is possible but that there has to be a centrally agreed system of record keeping which all teachers understand and operate.

I have already mentioned the high level of sustained commitment which the staff has shown. The effect of being involved at first hand in decision-making, the opportunity for continuing professional discussion over shared problems and as a team having an important part in the making of school educational policy has enabled even the youngest and the newest member of staff to be significant in the corporate life of the school.

Forward's verdict is on the whole a favourable one. "If living by consensus decision, consultation and professional discussion is at times an exhausting process, it is also a stimulating and very satisfying one."

In conclusion it may be useful to add three points that arise specifically from the case studies we have presented:

i) SBCD is difficult to evaluate. Even though in most of our case studies it has been specific to the school in which it takes place, few effective strategies of evaluation have emerged. Perhaps here, above all else, there is a need for external assistance. Meanwhile, the most reliable evaluative evidence seems to be that SBCD is effective if it endures. The endurance of the activity at least indicates that teachers feel that it is good for them and, if this feeling predominates, it is probable that they are deriving benefit from the activity. Certainly all depends on personal involvement; without it the effect of SBCD is likely to be very little different from that of centralised curriculum development. In this connection it is interesting that in the case studies mentioned, the role of outside experts (with the possible exception of Richardson) seemed to have little significance; little importance was attributed to their role in most of the examples given.

ii) SBCD offers rich potential for identifying effective strategies for in-service teacher training on the one hand and of enhanced student involvement in the school on the other.

There is little doubt that the collective, shared nature of the enterprise and its immediacy have the capacity to involve and to motivate those who participate in it.

iii) Though SBCD clearly is a change process in the examples given, there is no indication that it is an instrument of radical change. In many cases SBCD appears to be a mechanism whereby existing curriculum orientations may be maintained more effectively in changed conditions and as such may even have a conservative element about it. Certainly the role of the Head or school Principal appears to be little diminished by SBCD; some of the examples show that it clearly allows them to reinforce their positions. Unquestionably SBCD offers the potential for a redistribution of power in the school, but at present this power appears to be latent rather than manifest; potential rather than achieved. It may well be that despite the further opportunities offered by SBCD, the autonomy of the teacher in England and Wales will still be exercised most commonly in the choice of traditional rather than radical material.

## III. THE TEN PER CENT EXPERIMENT IN FRANCE

by Yves Agnés,
Le Monde, France

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## 1. A MINISTER DECIDES...

On March 27 1973 Mr. Joseph Fontanet, then Minister of Education, dispatched a circular to the Rectors and Inspectors of the Academies and to the Heads of lycées and other secondary schools. It began: "I have decided to make available to secondary schools, as from the beginning of the 1973-74 school year, ten per cent of the annual timetable. A forthcoming decree will stimulate, for those subjects and classes where it is necessary, the reductions in curricula which will allow this number of hours to be allocated to innovatory activities relevant to education."

The purpose was clear: to free one tenth of the annual timetable in each subject for something other than the normal course of study. The circular stated that "the hours thus accumulated should not be considered the exclusive property of each discipline: they are a general allocation". Headmasters and Headmistresses were put in charge and teachers were called to work in teams, cutting across class and subject barriers. For the Minister it was up to the college(1) or lycée as a whole to take on the job of arranging this "10 per cent" and making it work. All involved would be consulted, from class delegates to the school council, which includes representatives of the school administration, parents, teachers, pupils and outside personalities.

Ten per cent to do what? The Minister's scheme was flexible for he felt that schools should be free to use the ten per cent as they thought fit. "No specific instructions for utilising this ten per cent will be given. To preserve the spirit of such a measure, it is essential for methods of application to be worked out by each school." This represented a minor revolution in a system where everything is laid down at the top, spelled out in texts and supervised by the central authorities.

In his circular, however, Mr. Fontanet did give some hints about his intentions: "The general allocation may be used for individual projects, for gathering material or for other para-educational activities necessitating contacts outside the school, such as visits and excursions etc.... Part of the time could be used to help pupils with problems, though this should not be overdone: it should not be utilised for examination swotting. For those studying literature and the arts, schools should not disregard the value of theatrical activities, whose various aspects would be a source of enrichment."

1) The equivalent of secondary modern and secondary technical schools.

The measure applied to all state secondary schools: collèges d'enseignement secondaire (schools covering the lower cycle of secondary education up to the end of compulsory schooling), collèges d'enseignement technique (secondary technical schools with a short upper cycle leading to vocational certificates), lycées and lycées techniques (high schools and technical high schools, offering a long upper cycle culminating in the baccalauréat). It was also aimed at private schools under contract of association with the state, but we will deal only with the public sector.

One final point - no extra money was provided for carrying out the innovation.

## 2. THE LYCEE REVOLT AND TEACHER EXASPERATION

The Ten Per Cent grew out of a background of events that help to explain its importance and significance. In March 1973 the secondary schools erupted: it was the greatest ever revolt of this kind in France and the beginning of what is known as the "mouvement lycéen".

In May and June 1968 lycée pupils had been actively involved in the student and social uprisings throughout the country. But their protests, their demands for more "participation" in school life were but a distant rumble compared to the storm at the universities. Secondary school agitation as such really began in 1971. There were two main bones of contention: solidarity with certain pupils who had been punished, and denunciation of the school as a barracks out of touch with the modern world and deaf to the desires of young people for greater emancipation and responsibility.

There was a second "spring movement" in March 1971 when lycée pupils, prodded as usual by the extreme leftist groups, woke up to the fact they would now have to do their year's military service immediately after the baccalauréat. The "Loi Debré" (Mr. Michel Debré was defence minister when the law was passed) fanned the revolt, which rapidly spread to an attack on the conditions of secondary school life in general. Not a single state lycée was left out. And the technical schools joined the fray, bringing their own problems: too much work, too much discipline and gloomy career prospects.

The teachers too were just as discontented even if they never took to the streets in large numbers. 1968 had raised hopes which had fallen flat. Many were keenly aware that the encyclopaedic approach had little to do with present-day needs and that an authoritarian stance with pupils no longer made sense. They were all up against a new problem: how to get their teaching "across" to pupils who openly flout authority, proclaim their indifference and boredom, and gradually drift away from school?

Mr. Fontanet's predecessor as Minister of Education, Mr. Olivier Guichard, had initiated a number of liberal and progressive reforms, particularly in the teaching of mathematics and French, and had set up huge committees of experts to prepare the ground. In the same way he had appointed a group of experts, under the chairmanship of Mr. Louis Joxe, a former Minister, to look into the problems of the teaching profession. This "Committee of Wise Men" submitted its report in October 1972. One of its main points was that the only way out of the crisis was to give secondary schools more independence and so encourage teachers to try out new ideas. Among other things it suggested setting aside a part of the timetable by reducing the syllabus; schools would use this time in their own way. This was the source of Mr. Fontanet's inspiration.

Freeing time for activities only indirectly linked with official courses followed in the wake of two other interrelated initiatives taken by Mr. Fontanet. He was already backing experiments in project work for older pupils, the aim being to put them in a situation where they had to be more independent and less passive, with the teacher as individual guide rather than sole purveyor of knowledge. He had also decided that every lycée and secondary school should have its "documentation and information centre". Simply lending books was not enough: school libraries should become places to study in, thus easing the transition to more active teaching methods.

## 3. BREAKING THE ICE

In instituting the Ten Per Cent the Ministry of Education had several objectives which for convenience we can group under six headings:

### 1. A modicum of freedom

The first objective was to give schools a little of the freedom that most pupils and teachers clearly wanted. At the start of the 1973 school year Mr. Victor Marbeau, with the General Inspector, Mr. Roger Grandbois, one of the Ministry's chief advocates of this reform and responsible for its co-ordination, declared: "Under the state education system people are accustomed to being ordered about from above. It is high time to change the tune and let schools become more involved and responsible for what they do." Giving school Heads the job of organising the "ten per cent" would strengthen their role as co-ordinators of teaching, something they seldom did for the other 90 per cent, mainly because each subject was traditionally a law to itself.

2. Teamwork

Here the circular is precise: the "ten per cent" should be used "for activities putting the accent on teamwork between teachers. Teams may work within one, two or more subjects profiting from the presence of individuals from different fields during this pooled time". This struck at the very root of French secondary education, where each subject is hived off from the others with its own set syllabus. In most secondary schools teachers only come together to talk about their pupils during the brief term meeting whose main purpose is to compare pupils' results in each subject; no question of concerting efforts.

3. Lighter courses

Doctors, teachers and their unions have long been complaining of the school curricula. Each teacher is concerned only with his own subject - which is hardly surprising in view of the fact that his university training, or preparation for state examinations, has fitted him for nothing else - and he quite naturally sees his speciality as the cornerstone of the "culture" that secondary education provides. As a result more and more has been pumped into each syllabus, with the hope that by the time pupils sit for the baccalauréat they will have acquired enough "baggage" to move on into higher education.

The Ten Per Cent reform has been the first attack on overburdened curricula in general subjects (though not in the technological or vocational field) to meet with some success. Too cautious, say those calling for more drastic cuts; too bold for others, particularly some Inspecteurs généraux,(1) who fear a rapid dumping of tradition.

4. A different relationship between teacher and pupil

Though the circular does not actually say so, the scheme also set out to change the teacher/pupil relationship. This would occur not only because pupils would help decide how this free time should be used, but especially because the overthrow of traditional classroom boundaries would oblige teachers and pupils to cope with a different kind of situation.

5. Opening up to the outside world

Through outside visits to firms, museums, theatres, contact with nature and unfamiliar aspects of life, the Ten Per Cent was to be that breath of fresh air for which pupils especially had long been

1) These inspectors are in particular responsible for modifications in courses of study and the supervision of teachers, for each subject.

clamouring. French education leans too heavily on the school, it is said, with lycées cut off from the social and cultural realities of a society ever on the move. But many teachers and parents hesitate: what if opening up the lycée to the world outside drags "politics" into school life?

6. Triggering off innovation

The Ministry of Education pinned great hopes on the chain reaction this Ten Per Cent might trigger off: teachers, for example, would be obliged to change their ways. It was a stratagem designed to unblock a frozen situation, set people thinking and acting - but without upheaval. "We have broken the ice" said those working with Mr. Fontanet: ten per cent of freedom could in the long run mean 100 per cent change.

## 4. REORGANISING THE TIMETABLE

For schools ten per cent of the academic year in each subject meant regrouping three hours a week.

The first problem was organisation: a strictly practical matter, but loaded with implication from the teaching point of view. Here, as in the case of content, the Ministry had given no firm lead.

Left freedom to choose, schools opted for one of several possibilities:

a) A full week per term (a term is roughly ten weeks if holidays are taken into account).

b) An alternating half-week. After four weeks of normal activity the Monday, Tuesday and Wednesday morning of the fifth week are set aside. Later, during the tenth week, it becomes the turn of Thursday, Friday and Saturday morning. During these two half-weeks teachers, by class or groups of classes, or even the school as a whole, work out together how the time should be used.

c) The somewhat bizarre term "pooled sliding half-days" (demi-journée banalisée glissante) refers to a way of spreading the ten per cent over ten weeks. Each class is divided into ten groups - as many as half-days in the week. During the first week, group one uses Monday morning, group two Monday afternoon, group three Tuesday morning, and so on. The second week all move on one: group two now has Monday morning, with group one getting its turn on Saturday. After ten weeks each group has had its week of "pooled" time - without upsetting the normal timetable and teachers could carry on more or less as usual.

d) Similarly a whole day may be "pooled" each fortnight for each class or group of classes.

Clearly a full week would give much more scope for innovation and a genuinely interdisciplinary approach, but on the whole this solution had the least success. This is hardly surprising in view of the difficulties that arose: the need for coherent planning and real co-operation between teachers, the problem of controlling absenteeism, and the danger of anti-climax, of creating an "event" in the life of the school that might cause unrest or disillusionment later.

In some educational districts, however, schools opted for this procedure as often as for one day a fortnight or one half-day a week. Yet the latter held two advantages: the rhythm of school life was not disrupted and co-ordination with normal teaching was much easier to handle. But projects were necessarily more limited in scope and it became a real problem to associate several classes of different levels. Many secondary schools simply left teachers free to organise the ten per cent in their own way.

## 5. A PREMIUM ON IMAGINATION

For teachers, this newfound freedom was embarrassing. What were they to do with it? In the first year (1973-74) quite a few schools did nothing at all - simply out of habit or for a variety of reasons such as union opposition or lack of specific funds. This applied for example to one school in ten in the Nancy-Metz education district and one in five in Montpellier. Understandably schools in the process of overhauling their teaching methods were the most enthusiastic; the more traditionally minded showed little sign of interest.

Most schools, however, did adopt the scheme in the first year, many with enthusiasm. They plunged, as it were, into this "adventure in learning" and carried through a vast range of activities. Characteristically, the majority respected the spirit of the circular and used the time for something quite different from the usual routine. What was done can be classed into seven types of activity:

Outings: These were already among the para-educational activities, but they expanded rapidly under the impact of the Ten Per Cent. There were visits to museums, factories, newspaper works, new towns, mines, monuments and places of historical interest, nature reserves and so on, and there was the usual crop of problems. Some factories complained of being submerged by parties of visiting school-children; and it was found just as expensive for rural children to get a glimpse of industry as for those in Paris, for example, to discover the countryside. But the general response was very encouraging - most

factories welcomed the visits and the local authorities and various unions and associations gave active support.

Surveys and project work: It was here that teachers and pupils showed the most imagination and produced true multidisciplinary studies.

A secondary school in Saint-Mandé (Val-de-Marne) embarked on a socio-cultural study of "the Western", bringing in history, literature, English, art, music and handicrafts. At the Lycée Victor Duruy in Paris a team of teachers of French, history and economics prepared and followed up a visit to an exhibition at the Musée des Arts et Traditions Populaires on "Wife and husband in traditional rural France". At a co-educational secondary school in Figeac (Lot) pupils compared what we actually know of Roman Gaul with the Asterix strip cartoons. Courses on home economics and especially consumer education were organised for 13 to 14 year-olds in a secondary school in Auch (Gers). Lycée pupils in Montferrant (Puy-de-Dôme) visited a small hillside farm and then a large mechanised one, and brought back a wealth of material to work on.

Among the many thousand enterprises five themes in particular kept recurring. These were: archaeology, history, ecology, the environment and the human sciences, and they often led to the publication of quite detailed reports.

Self-expression: drama, photography, strip cartoons, the plastic arts, cinema (many films were made) and music busied thousands of teenagers. For instance, sixth form pupils in France (Val-de-Marne) devoted two and a half days to a thorough study of cubism and its affinities with painting and literature, a far cry from the usual "socio-educative" visit to the Modern Art Museum.

Career guidance: The Ten Per Cent freed time also for activities relating to career guidance such as talks on the different professions, meetings with former pupils or parents or contacts with technical schools. Some secondary schools organised "career days", and invited a host of experts and advisers. Others arranged their "Days" in conjunction with the local university as, for instance, in Lille.

Travel and discovery: The Ten Per Cent could include the traditional 48-hour trip to London (of doubtful educational value), but much more fruitful were visits by whole classes for a week or more to certain parts of France: potholing in the Dordogne, a look at life in the Alps, socio-economic studies in Brittany or Alsace and so forth. But such trips cost money and parents had to contribute.

Coaching: Although the Minister's circular spoke of this, little of the freed time was used to help those with personal problems. Extra tuition seemed to go against the grain of the measure. If special effort was made for weaker pupils, this virtually excluded them from any innovatory activities, and this a lot of them resented.

In the sixth forms: The Ten Per Cent was frequently used for a "mock baccalauréat".

School heads in general played a major role in getting the Ten Per Cent off the ground, co-ordinating activities, settling administrative questions and so on. Some even supervised things to the last detail: a headmistress in Montpellier told us "I insist on proper organisation. An outward-looking approach if you must, but an orderly one". Not everyone went so far. Sometimes a group of teachers took things in hand, sometimes the staff let pupils do it their own way. The result was a host of "meeting-point" debates on topics of interest to the young: abortion, cinema, the press, problems of foreign policy (Chile, Vietnam). Elsewhere personalities were invited to give talks (which did not always pass without friction), and then there were those who went in for artistic activities or sport.

Occasionally the staff were against pupils organising the Ten Per Cent for themselves. Thus we find a few lycées with "unofficial ten per cents", giving rise to short-lived conflicts within the school. These would often turn out to be lycées with an authoritarian approach.

Some examples: A few concrete examples of originality will illustrate the idea's potential.

. Learning from farmers

In the Spring term of 1974 six hundred pupils from different schools in Grenoble, Romans and Montbéliard took part in "open-air classes" in the Alpine district of Vercors. Whole classes, together with most of their teachers, took turns staying with local farmers for periods varying from three days to a week.

Teachers were obliged to find new ways of handling their subjects in the wilds. This was no problem for geography or the natural sciences, but teachers of other subjects had to rely on their imagination. One teacher of French tackled the local dialect, another used local furniture as a stepping-off point for a discussion on mountain economy. But the real gain was contact with all sorts of experts - farmers, veterinary surgeons, specialists in forestry and the like who had little difficulty in captivating the young city dwellers.

Costs were met, for the most part, by the administration of the Vercors National Park, which includes 23 communes. The Ministry of Youth and Sport also provided a grant. Parents paid a third of the board and lodging, which came to 30 Fr. per child per day.

. An exercise in planning

In Lorraine the regional planning body (OREAM) devised a game based on country planning: imagine the lake of Madine (Meuse) as a leisure centre. Three hundred fifth and sixth form pupils (2de and 1ère) in the Nancy, Metz and Verdun regions got down to work.

They split up into small teams and studied a dossier provided for the purpose by OREAM. "Delegates" then went out to survey the site in "open-air classes": they met farmers, attended local council meetings and so on. In each of the five schools involved teachers helped their pupils map out a scheme which respected psychological, social and administrative limitations but left plenty of scope for bright ideas. The OREAM gave prizes for the best projects. The aim of the organisers was to "encourage a new dialogue between the authorities and lycée pupils".

. A week behind the news

For a week forty-six fourth to sixth form pupils in Rueil-Malmaison (Hauts-de-Seine) lived the reporter's life. They organised everything for themselves with the unpaid assistance of journalists from the "Association Presse Information Jeunesse" (APIJ). The week began with a debate on "what we want to learn about". The answer: press objectivity, the structure of a newspaper, censorship and "news reporting about schools".

In small groups, each with its editor-in-chief, the pupils visited newspapers and radio and television newsdesks, tried their hand at writing articles, learnt how to handle video-tape. They met many journalists. At the end of the week they gave a "Press Conference" to present the results of their work. Two important effects were that journalism ceased to be a myth and each individual felt the need to be better informed. Several lycée pupils, in collaboration with APIJ journalists, produced a book about their experiences.(1)

Absent from the scene were teachers who criticised the experiment from the outset. "Some of them told us" pupils reported "that it was a week lost... and that we would live to regret it". A teacher of English said "I didn't understand what was happening so I carried on as usual".

. Frescoes and folklore

At the secondary school of Bon Encontre near Agen (Lot-et-Garonne) teachers and pupils decorated two buildings, painting walls, staircase, pillars, playground and ceilings with brightly coloured frescoes, some abstract, some figurative.

At the Lycée Georges Clémenceau in Sestène (Corsica) pupils married biology and art. They chose a few themes from their biology course and studied their relation to certain art forms, particularly in the work of well-known contemporary artists. The parallels were expressed on display boards of photos and drawings.

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1) La presse à l'école, les 10 % à Rueil, Editions le Cerf, Collection "Attention-Ecole".

The Fondation de France, among other things, administers a cultural fund and it decided to use part of this to sponsor prizes for Ten Per Cent efforts in the cultural field. After the 1974-75 school year two schools won 20,000 francs each and another two 10,000 francs. This scheme is to continue.

Secondary school pupils from La Pigue, in the vicinity of Guéret (Creuse), came up with an original project. Concentrating on the village of Gorce and the Guéret region, they surveyed its traditions and folklore, its population, local dialect and farming activities. The outcome, complete with illustrations and diagrams, was a happy example of interdisciplinary work.

Pupils at the Lycée Technique Francis Perrin (Haute-Vienne) visited old people and built up a collection of traditional folktales in the fast disappearing Limousin dialect. Problems of transcription were overcome by adapting the methods of the Institut d'études Occitanes and the pupils hope to publish about ten of the tales in an anthology.

. A social problem

The following is a summary by one of the teachers at the Lycée Emmanuel Mounier, Grenoble, of a five-month project by fifth and sixth form pupils who outlined the social facilities of their area in a 75-page report.

"An administrative decision at the end of the 1973-74 school year gave us two separate weeks in 1974-75 for Ten Per Cent activities. This was enough to tackle a subject in depth.

"On reading Lenoir's Les exclus (The Excluded) two passages stood out: ...'it must be fully understood that there is no question of unearthing the old notion of charity to replace social security, its modern counterpart. But if social security for all comes to make the individual feel stripped of responsibility once he has paid his taxes and that it is up to the state to succour the disturbed and the distressed, society will rapidly lose all semblance of humanity'. ...' the poorest (old people) are entitled to a housing allowance independent of their children's income: a law voted on 27th July 1971 was supposed to benefit 800,000 of them but insufficient publicity meant only 200,000 were actually receiving this allowance in 1973'.

"The ideas contained in these extracts were put to fifth and sixth formers. 98 volunteered to work on these and other issues raised in the book: how did they apply locally?

"The first step was to gather as much up-to-date material as possible on the services available to certain social groups in the Grenoble region, i.e. the unemployed, immigrants, pensioners, the handicapped and all those who at one time or another find themselves in difficulty.

"To collect and digest this information pupils set off in twos and threes for short spells of training in the various services. This lasted from March 3 to March 8. They observed normal office hours and tried to integrate as well as they could. What they found out was checked for accuracy by the authorities and then produced as a booklet.

"Later, from June 9 to June 14, groups of six or seven pupils stationed themselves around the town - in market places, the Place Grenette, Place Victor Hugo, Maison de la Promotion Sociale etc. - to distribute the booklet, explain what it was about and answer questions.

"The plan which we put to the pupils adopted the following guidelines:

- work outside the Lycée: a practical outcome depended on contact with the town;
- introduction to the local and general problems of society;
- the difficulties of approaching official services and the public;
- no classroom barriers: different forms would work together.

"The project seems to have achieved its objectives. Snags kept cropping up, but everyone put forward ideas in a thoroughly co-operative effort, showed a great sense of responsibility and a genius for organisation; they took things very seriously and worked hard and continuously, particularly in the second stage, which considerably overshot the week initially planned."

. Learning what freedom is about

During the spring term of 1974 lycée pupils at Montrouge (Hauts-de-Seine) were allowed to organise the Ten Per Cent themselves, with or without the help of interested teachers. After discussion, about twenty "workshops" sprang into being: a visit to the electricity authorities in Orleans, pottery, newspapers, various crafts; they built a radio receiver, compared Judaism and Catholicism, studied contraception and abortion, explored graphology and produced a "Ten Per Cent Magazine".

Debates were well attended, all the pottery was sold, the Lycée documentation room was hard put to cope. The atmosphere was relaxed, with pupils and teachers enjoying lengthy discussions. Yet the gym - mostly boys - never stood empty, and half the pupils simply played truant.... "They are learning what freedom is about" commented a teacher.

## 6. A FEW FACTS AND FIGURES ON SCHOOL PARTICIPATION

Our examples refer mainly to 1973-74. They are varied and interesting, and are a tribute to the imagination and enthusiasm of teachers and pupils. But when we turn to 1974-75 the Ten Per Cent activities seem less varied, less well organised and less systematic. Perhaps the best way of illustrating this is by means of statistics that reveal how many schools have taken part since the ministerial circular came into their lives, and how they set about organisation.

There are no figures for the country as a whole but the Nancy-Metz educational district provides an indication of school reactions in 1973-74. 274 schools out of 276 (lycées and collèges d'enseignement secondaire only) replied to the official questionnaire.

Table 1

PARTICIPATION OF 274 SCHOOLS IN THE NANCY-METZ EDUCATIONAL DISTRICT IN TEN PER CENT ACTIVITIES

| System employed | 1st Term 1973-74 | 2nd & 3rd Terms 1973-74 |
|---|---|---|
| No action | 37 (15%) | 30 (12%) |
| Pooled sliding day or half-day | 115 (46.5%) | 99 (40%) |
| One week | 17 (15%) | 31 (12.5%) |
| Alternating half-week | 16 (6.5%) | 21 (8.5%) |
| Total freedom | 42 (17%) | 66 (27%) |

Note that only 21 per cent of the schools in this area adopted the one week or alternating half-week system, which give the greatest flexibility and scope for breaking new ground.

When we look at the total number of schools participating, 1974-75 saw little change. 80 per cent of schools in the Bordeaux district took part as against 88 per cent the preceding year in Nancy-Metz. But closer examination reveals a significant development: whereas 27 per cent of schools opted for "total freedom" in 1973-74, 68 per cent did so in 1974-75. Furthermore, when teachers were asked their views on the Ten Per Cent experiment, more than 70 per cent felt that interest in the experiment was "on the wane", or even "dying".

1975 confirmed the trend: the autumn term saw a general decline in Ten Per Cent activities, and the experiment seems to be at death's door.

Why such a rapid demise?

First a change of Minister. The Ten Per Cent, as we have said, was the brain child of Mr. Fontanet, Minister of Education in 1973. In 1974 Mr. René Haby, former Rector of the Academie of Clermont-Ferrand, took over. He applied himself to a more far-reaching reform

of the educational system and a new law was passed in July 1975. In 1974-75, therefore, ministerial encouragement for continuing the experiment was less forthcoming.

In September 1975 a second argument tipped the balance. The Minister did not wish, by laying renewed stress on the Ten Per Cent, to give too precise an indication of his intentions on the issue of school autonomy; he preferred to await the appearance of the official texts in preparation. On top of this, the sustained opposition of two large teachers' unions made him reluctant to add to his difficulties.

The circular of March 27 1973 is still in force but schools are on their own: no support or encouragement is being given by the authorities.

## 7. AN OFFICIAL ASSESSMENT

In May 1974 the Ministry published a preliminary report, followed, a month later, by a "dossier". These two texts constitute the only official attempt at assessment; and there has been no general appraisal of the experiment since.

On the positive side the Ministry noted:

- its outward-looking approach;
- teamwork "felt as indispensable by the majority of teachers" though "collaboration between disciplines is rarely wholehearted and still concerns only a handful of really interested teachers".

(This judgment is confirmed by a survey carried out at Bordeaux covering the 1974-75 school-year. In the Collèges d'enseignement secondaire, 19.6 per cent of the activities were interdisciplinary in character, 24 per cent confined to one field and 55 per cent "joint"; in the lycées the share of interdisciplinary activities fell to only 9.2 per cent in contrast to 24.7 per cent for the Collèges d'enseignement général.)

- innovations, particularly in teaching methods and the introduction of subjects not usually taught such as Greek, biology, archaeology, astronomy, computer science, cinema;
- co-operation between teachers and administrative authorities; exchanges of opinion, discussions, review of present teaching methods.

Though "the measure was generally well received" the Ministry stressed certain difficulties:

- excessive caution, scepticism and opposition by teachers and Heads in the early stages. For the Ministry, however, these obstacles had been more or less overcome;

- lower secondary schools and smaller schools had shown more keeness than lycées (upper secondary cycle) or large schools;
- difficulties in getting teachers to work together, give up their time and be understanding (no sign of the word "individualism" on paper, but it came up in conversation);
- material problems: some schools did not have documentation centres, some buildings proved unsuitable (not enough classrooms for example), above all lack of funds.

In November 1975 we interviewed those in charge of the experiment at the Ministry of Education. These officials, from the Minister's Private Office and other directorates, added further details and drew some general conclusions:

1. Working hypotheses were borne out, in particular:
   - the need to do away with barriers between subjects;
   - pupils were ready for greater responsibility within the learning process;
   - teachers were quite able to work in teams when the conditions were right;
   - school heads could make or break such activities.
2. There was little impact on normal teaching, i.e. the other ninety per cent of the time. The experiment was seldom more than an offshoot.

## 8. CREDITS AND DEBITS

With no complete assessment from the Ministry of Education it is not easy to single out the strengths and weaknesses of the scheme. Yet this needs to be done if we are to work out strategies for reforming the educational system. The conclusions that emerge the most clearly are the following.

### Teachers and pupils

The Ten Per Cent proved that teachers and pupils can change their attitudes towards each other.

Instead of "following" a set syllabus and gradually sinking into a routine, teachers have to rely on their wits, find completely new things for their pupils to do - and unbend. Both sides have to adapt: the teacher can explore educational ideas and techniques that tend to be stifled by the normal system and the pupil comes to life, takes an active interest in what is proposed, or volunteers his own suggestions. During a visit, a survey, a training course, teacher/pupil relationships can take a new turn: the teacher is no longer a mere symbol of authority and dispenser of knowledge, and the pupil can be something other than a machine for absorbing information.

Teamwork between teachers, when it occurs, also breaks down the isolation of each teacher in his subject. "At last we can talk to one another" said one lycée teacher. This is no meagre result, nor is the fact that teachers are brought to ask themselves questions about the course of study, the pupils, the headmaster, colleagues - in short, about all the facets of school life.

But such a change in attitudes is by no means general - or freely consented - among teachers; later we shall give some of the reasons why. On the other hand, pupils have proved that they could give an unexpected boost to the movement for change. They were quick to grasp that this "ten per cent of freedom" was a first attempt to do something about their complaints (see Section 2). Their organisations, or the political groups active in the lycées, urged that pupils should have a bigger say in organising the Ten Per Cent. Where schools and teachers made little effort, through disapproval or sheer inertia, they exerted pressure and sometimes, as we have seen, even organised "unofficial" Ten Per Cents.

Though at times an excuse for political activity, the scheme's real value lay elsewhere. Pupils became concerned about overhauling teaching methods and programmes: they may well help speed up innovation.

Too many stumbling blocks

Despite all this dynamism many problems arose, and these explain the administration's rather too hasty efforts to disentangle itself from the scheme.

1. First of all, money. Almost all the reports sent in by schools stated that lack of specific funding limited the interest and the scope of the experiment. Some, individually or through their unions, made this a point of principle. Others paid no heed - money was useful but not indispensable.

Each year secondary schools receive a provision for teaching materials, documentation etc. The actual sum is based on so much per pupil per year. In 1975-76, this meant 28 francs for the upper classical and modern cycles, 25 francs for the collèges and from 52 to 785 francs for the technological subjects taught in lycées and collèges techniques. Part of this money could be used for the Ten Per Cent but, if so, normal purchases had to be cut back.

Occasionally the school co-operative or youth club could come to the rescue. Here and there the Secretary of State for Youth and Sport, or the local authorities, also provided a few grants for short courses or survey projects which they found of special interest. But very often a trip away from school had to rely on parental contributions. In Montpellier (Hérault), for instance, the secondary school

of la Paillade asked for 60 francs per child towards the cost of a few days in the Haut-Languedoc nature reserve.

A typical example: pupils from the Maximilien Perret Lycée, a technical school at Vincennes, went on a twelve-day trip to the Alps. Total cost for 98 pupils and 5 teachers: Fr. 50,500. The local Youth and Sport authorities gave a grant of Fr. 10,000 and the metereological association another 6,000 Fr. The lycée refunded the cost of school lunches over the period (FR. 3,724) and teachers also subscribed. Parents agreed to pay the rest, Fr. 29,276, and established their own sliding scale from 0 to 450 francs each.

Family contributions in a country where state education is supposed to be free obviously raise a question of principle. Some look to sponsorship but, with nearly 4 million 11 to 18 year-olds in the state system (general and technical) this does not seem a practical solution. When, however, projects do not entail costly journeys financial considerations have by and large not stood in the way of innovation.

2. Opposition by teachers was a major reason for the scheme's setback, and particularly for its steady decline in the second year. Such was the force of habit that many teachers were reluctant to try it out: they could not see the point of such new-fangled ideas. Some schools complied grudgingly with the Minister's instructions; others simply ignored them. In one provincial lycée the Head had no difficulty in cutting short the operation, albeit successful, after a one-week trial; thoroughly exhausted, the teachers replied to a questionnaire that they had no desire to repeat the experience.

Teachers, of course, must put in a great deal of extra work to make a week or half-week run smoothly, though the really active were usually very few in number. A Headmistress in Carcassonne calculated that 5 of the 26 teachers involved in the Ten Per Cent week had spent 50-54 hours at the school, 11 27-30 hours and 10 had worked as usual - 18-21 hours. In a profession tending to become more and more a female preserve such unpaid overtime is often resented.

In these circumstances the main union for secondary school teachers, the SNES(1) had an easy job bolstering the opposition. Yet earlier it had found itself in a quandary: outright rejection of the scheme would lay it open to charges that it was anti-progress, anti-educational and moved solely by political considerations. It had therefore begun by denouncing the "lack of consultation" with teachers before the circular appeared. The "positive elements" should not "disguise the fundamental problems" of secondary education: pupils held back or turned away, crowded classrooms, heavy schedules and questionable educational objectives. Only later did its opposition

1) "Syndicat national des enseignements du second degré"; it is affiliated to the Fédération de l'Education Nationale and is left-wing in outlook.

become almost systematic, after the "corporatist" wing had won its quick victory over the "educationalists": the Ten Per Cent should in no case "aggravate the working conditions of teachers". The union's support would depend on (a) the provision of additional resources (teaching posts, accommodation, equipment, finance), and (b) agreement that the time spent by teachers in "co-ordination" should count as part of their service.

The "Syndicat général de l'éducation nationale" (SGEN, affiliated to the CFDT) endorsed these conditions - though not as a sine qua non. For this union, the Ten Per Cent "was a measure which could contribute to general reform". Members were urged to participate actively, but primarily in order to highlight difficulties. Yet a survey of its members in autumn 1973, published in the SGEN journal "Syndicalisme universitaire" (10th January, 1974), noted several positive features, including the active role of pupils and teamwork by teachers.

The smaller "rightist" unions(1) also criticised the increased burden on teaching staff but added another fundamental stricture: out of the ordinary educational activities "deformed" traditional teaching. The influential "Société des Agrégés", a conservative body representing the most highly-qualified teachers, opposed the Ten Per Cent from the start 'to avoid lycées being rapidly turned into youth-clubs with no structural educational activities'. Teachers should conserve their independence "in their field and in their classroom".

Most specialist associations (French, biology-geology, modern languages, mathematics, philosophy, art, history, geography, the physical sciences) had many reservations, though some (history-geography and French in particular) also stressed positive aspects. Criticism fell on unwarranted cuts in the syllabus (mathematics, the physical sciences), lack of special training to help teachers adjust to such innovations (French, modern languages) and the obligation to be constantly on hand during Ten Per Cent activities (French, biology-geology).

Even the many teachers who were staunch supporters gradually shifted their position. At first, full backing, often with enthusiasm. Then, later, a "reasoned" withdrawal: to continue under the circumstances would be foolish. Money was scarce, facilities inadequate, and a number of teachers showed little interest, letting the burden fall on an active and progressive minority. Moreover they did not want the Ten Per Cent to serve as an alibi or stamp of approval for an education otherwise totally unsuited. "We had to show it could be done" said one of these teachers "but then refuse to carry on in these conditions."

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1) "Syndicat national des lycées et collèges" (SNALC).
"Confédération nationale des groupes autonomes" (CNGA).

3. Parents on the other hand were never an obstacle. Their two large federations, one "leftist" the other "reformist" and very much in favour of "participation", never flinched in their support. The "Fédération des parents d'élèves de l'enseignement public", known as PEEP, called it "one of the most satisfactory innovations" of the 1973-74 school year, and urged more independence for schools, teacher teamwork and more flexible teaching methods. The other Federation stressed the need for proper "human, material and financial resources".

At the school level, however, there were a few complaints. Parents are often suspicious of innovations which are not directly geared to the acquisition of knowledge: for many French families the most important thing is the diploma - technical certificate, school leaving certificate, baccalauréat - and its promise of a future career.

4. Sometimes the education authorities have hindered innovation. The former director of primary and secondary school teaching in Paris, in a circular dated 22nd January, 1975, greatly reduced the scope of the Ten Per Cent when he wrote: "As regards the content of these activities they should relate closely to the official course of study prescribed for the class or classes concerned... In no case will meetings or debates on unrelated topics be tolerated." Similarly the Rector of the Bordeaux Academy, in a circular dated 25th January, 1974, asked for "all socio-educative activity or study of subjects unrelated to normal school life" to be withdrawn from the list of potential projects. And this, utterly at odds with the spirit of the Ten Per Cent, from civil servants appointed by the Minister. Curious, to say the least. True, the central authorities, not wanting any "accidents", sought to shield their scheme from attack... and on occasions appear to have been all too successful.

## 9. IS AUTONOMY POSSIBLE?

These administrative obstacles and the inertia of teachers, often for reasons of "professional status", lead us to conclude on a more pessimistic note than the central authorities.

The Ten Per Cent experiment showed that innovation was possible but at the same time spotlighted the rigidity of the French educational system, hardened by habit and hampered by too much centralisation. It was throwing down the gauntlet to "decree" innovation by sending out a circular to more than 6,000 secondary schools. To create a zone of autonomy in lycées and collèges which in all other respects have no independence at all (programmes and examinations, recruitment of teachers, regulations - all come from above) was incongruous right from the start. The planners hoped the Ten Per Cent would infect the rest of school life - but school life quickly

put this spoilsport in his place. Yet the desire for autonomy is genuinely widespread and the chances are still on the side of future reform. But first the system itself must yield: nothing will come unless it throws off its underlying inflexibility.

Reform depends on the teachers: they need help to win back their faith in education, to change their habits and methods. But structural reform is a must, too. The Ten Per Cent experiment raised the question of professional "obligations". How can there be radical improvement so long as a teacher's job is defined in terms of 15, 18 or 21 hours of "class" per week "owed" to the state which pays for them? Similarly, though an education of quality needs specialists, oversharp divisions between the subjects taught certainly do not make for a well-balanced training, both as regards the acquisition of knowledge and the ability to think. Furthermore the training of future teachers and in-service retraining are clearly due for a complete overhaul.

Finally, opening up the school to the outside world implies some risks. But surely this is necessary. The idea of a "neutral" school, spared from outside influence and social unrest, has long since been demolished by educationalists, researchers, sociologists. If we agree that the school should keep pace with the modern world, when so often it lags far behind, it must be much more closely linked to all aspects of social life.

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# IV. DEVELOPMENTAL STRATEGY AND EVALUATION OF A NEW SCHOOL IN SWITZERLAND

by

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## 1. PROJECT GOALS IN THE CONCRETE PLANNING AND REALISATION OF THE NEW SCHOOL

The project described here was the development of a new school consisting of an optional class during the tenth and eleventh school years, after the completion of compulsory schooling. The school was intended to provide general education, not preparation for university studies or an alternative for apprenticeship.

The project is known as the Development and Supervisory Analysis of the Curriculum of the Advanced Education School, Zug, Switzerland (The German abbreviation is EBAC-WS: Entwicklung und begleitende Analysen des Curriculums Weiterbildungsschule Zug, Ecole des cultures générales). In addition to the development of the school, the project includes an evaluation which is discussed in Section 9.

The policy considerations, according to the school regulation of Zug canton at the beginning of the project, were: an extended choice of subjects, acceptance of both male and female students, graduation with a diploma. The legal proposals foresaw a school mainly concerned with preparation for the social and technical professions but this aim is largely in abeyance due to a lack of demand.

The project began in the autumn of 1970, its first phase of work being the definition of the learning objectives by which, in the second phase, the school's curriculum would be designed to fulfil. In this second phase, other essential elements in the school were planned in parallel - in an integrated way. These included the organisation for teaching, procedures for the evaluation of students and the selection of teachers. Planning was carried out at three levels: by a cantonal planning committee, by a curriculum research group and by teachers. The cantonal committee was made up of 15 democratically elected representatives of the community and the cantonal authorities, of parallel and further schools, of employers' and employees' as well as of womens' organisations. The curriculum research group is the "Freiburger Arbeitsgruppe für Lehrplanforschung - FAL" of Fribourg University.

The teachers who were originally appointed to translate the school's overall goals into concrete terms did not, of course, begin their work until the start of the second phase of the project. Their decision-making competence was strengthened at important stages of the development by the co-option of outside experts.

The school was opened in the spring of 1972; the curriculum was completed in the autumn of 1975, and the systematic evaluation of the school's organisation and the curriculum should be finished by the end of 1976. When that is done, the present scientific

supervision of the school by the FAL should be replaced by a new advisory body, the constitution of which is still to be determined.

The FAL research centre drew up the plan of operation for the project in an agreement made with the Ministry for Education (Department of Education). In this, the financial contributions of the client, among other things, were specified. The contract - and with it the project funds - were agreed upon in principle every two years. Right from the beginning, the project provided for practical outcomes (planning and development of the Advanced Education School and its special curricula) and more theoretical activities (for example investigation of the assessment of learning goals and of the evaluation results). Consequently, the necessary funds were provided, on the one hand, by the canton Zug (the deciding authority was the Board of Education, which is made up of an approximately ten-member commission consisting of representatives from public life and from different schools, presided over by the Minister for Education or the Director of Education) and, on the other hand, by Swiss national funds for the promotion of scientific research. The cost of the project up to the end of 1975 can only be calculated roughly because of the difficult distinction between the practical and theoretical activities so far as funding is concerned and the responsibility of individual FAL-research associates for different projects. However, the following is judged a reasonable estimate:

| | | |
|---|---|---|
| Planning commission in Zug (financing: Zug) | Fr. | 6,000,-- |
| Assessments (financing: Zug) | | 5,000,-- |
| Salaries and petty expenses FAL, including the secretariat (financing: Zug: Fr. 165,000,--, remainder: national funds) | | 295,000,-- |
| Preparation of reports (financing: national funds) | | 5,000,-- |
| Development work and advanced teacher education (financing: the city and the canton Zug) | | 29,000,-- |
| Total | | 340,000,-- |

Total expenditure for the year 1976 is expected to be Fr. 50,000: Fr. 40,000 for FAL salaries and petty disbursements, Fr. 10,000 for advanced teacher education. The contract with FAL runs out at the end of 1976.

## 2. THE PROJECT'S CONTRIBUTION TO CURRICULUM METHODOLOGY

In the view of those participating in the research, the project should lead not only to a school capable of meeting the general needs of those directly concerned and the wishes of the canton's whole



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population, but to a number of theoretical approaches that could be tested, investigated, or newly initiated in the course of the project. These plans for methodological development can be condensed into six propositions:

1. The project should attempt to create a school from the basis of its own curriculum. The curriculum should dominate all other components in the school's realisation as concerns both timing and content. The planning of the administrative, organisational and personnel elements of the school should not begin until the first main phase of the curriculum had been completed and should be conducted thereafter on an integrated basis.
2. The determination of learning goals should precede the designing of the curriculum and should decide its course to the end. No disciplines, carried-over school subjects or subject groupings should be intrinsically recognised as appropriate for the school, nor should they be allowed to appear in any form in the initial stages of the curriculum planning.
3. An attempt should be made to find out how best the work should be started, using the general theoretical and basically democratic approaches, then how more detailed contents and procedures might be introduced, and, finally, how the project should be developed by differentiation and the addition of information. The regulatory initial reference frames should remain effective to the end.
4. Insights into new procedures for collecting and assessing learning goals with different groups of people should be obtained. At the same time, points of reference should be found to determine the extent to which personal characteristics and sociological factors influence opinion on what the objectives of learning should be. This gives rise naturally to the question of which groups of people are suitable for the determination of learning goals under certain general assumptions.
5. The project should also include the design of work procedures that enable the transformation of learning goals into learning situations and curriculum materials - in short, the analysis of learning objectives, their realisation in practice, and the development of specific themes.
6. The first years of operation should be evaluated by a combination of systems analysis and the participation of all persons concerned. This undertaking should provide practical experience in the management of subsidiarily oriented evaluation, as well as a general approach to evaluation for this type of project.

The positive answers to, and the negative results of, this methodological survey are discussed individually below.

## 3. CURRICULUM THEORY REFERENCE FRAMES (IN THE FORM OF THESES)

The previous section has already pointed out several theoretical elements that have influenced the project. This section will illustrate several substantial and explicit theoretical propositions.

Schools and the rest of society exist in constant interaction. The school, being an environment to those concerned, possesses a certain end in itself, but at the same time it acts as a multifunctional socialising body. In this capacity it brings its own goals and initiatives into the society and, at the same time, actively and reactively perceives the demands of that society. This reciprocal relationship, with a tendency to secured self-determination, must be something that is generally accepted by the public at large.

The creation of a new school can, therefore, be justified only through the support of all groups that are directly involved. Parents, teachers, students, political parties and different interest groups are all part of it. Since, too, a new school comes within a governmental system whose laws are introduced or repealed democratically by the total adult population, the development of its curriculum must be based upon the relevant educational legislation. This became pertinent on several occasions in the course of the project. Legislation can make detailed statements concerning the new school, and for this reason the general public is represented on the planning committee by democratic election.

This authority, derived from democratic legislation, discussions of procedures and goals in a representative planning committee and the assessment of the learning goals by outside specialists, provides only part of the basis of the new curriculum. It is prepared, supported and accompanied by systematic theoretical work done by the research groups. This work (a) defines the frame of reference within which to elaborate the overall educational goals of the new school, (b) constructs categories for the definition and categorisation of learning goals, (c) develops curriculum strategies that are most likely to meet the desires of the population as a whole as well as those of the actual participants, and, above all, (d) justifies and realises principles of the curriculum process. Among these principles are: democratic representation; subject competence; transparency of the construction strategy; decision rules and decision makers: permanent flow of information among the participants; disposition of the project as a public developmental project; the revision of

statements within the overall frame of reference. The available empirical methods of the social sciences will be used in the assessment of the learning goals and different evaluations.

## 4. STRATEGY FOR THE CURRICULUM DEVELOPMENT: MAIN PHASE I

The curriculum development proceeds through two main phases. Main Phase I: creation of a framework for the assessment of learning goals; Main Phase II: transformation of the general learning goals into school-oriented learning objectives and creating the component parts of the curriculum. Phase I: As already explained, the new school was to be planned according to the curriculum, in other words, learning objectives, subjects and teaching methods. It was further decided that planning should begin with the definition of overall objectives the components of which could be subsequently recognised. Agreement on these principles for the organisation of the curriculum and its principal purpose (general education without direct intentions with regard to occupational demands and entry to universities, etc.) provided a firm basis for co-operation between the planning committee and the research groups. The creative and systematic development of the project was furthermore advanced by the state school administration agreeing that the traditional practices and procedures (school subjects, grading, supervisory structure, teaching personnel etc.) need not necessarily be copied.

It seemed logical to use the overall objectives of the school as a frame of reference within which an extensive evaluation of specific learning goals should subsequently be conducted. The framework therefore ultimately consisted of two parts (a) a classified collection of overall educational goals and (b) a classification of pertinent occupational fields.

As to (b), a certain number of occupations was selected from the total list of those recognised by the state. This list was increased to a total of 160 by adding occupations that, at the present, do not exist but probably will in the future. 40 people then adjudged these occupations (which were randomly presented in 5 lists) according to the three ratings: "significant", "of average significance" and "insignificant". This panel of judges consisted of the 15 members of the planning committee and 25 others selected according to five criteria (subject competence in school and educational questions, advanced knowledge in at least one of the possible occupational fields; manifest support for innovations; articulated understanding of the formation process of educational needs). It is interesting that the planning committee members, in contrast to the remaining judges, preferred the "arts" occupations. The 45 occupations with the highest

number of points were immediately put on the final list. To them were added 12 other occupations after extensive discussions in the planning committee so that a total of 57 occupations could be considered as a guideline for the subsequent formulation of the learning goals. In fact one cannot reasonably consider these 57 individual occupations as a frame of reference for the formulation of the learning goals referred to in (a) above; they should, rather, refer to the classification of occupational fields in (b). Within this classification five groups were recognised and given the following percentage distribution:

| | |
|---|---|
| Educational and social occupations | 31.6 % |
| Commercial, transport and administrative professions | 28.1 % |
| Nursing and medical occupations | 22.8 % |
| Artistic occupations | 10.5 % |
| Academic professions | 7.0 % |

As to (a) - the non-occupation oriented frame of reference: this was prepared by a small working group of the planning committee having regard to the various possible thematic areas and functions of the school. This followed two brain-storming plenary sessions of the planning committee at which 422 goal areas, or rather qualifications, were proposed. Two judges entered these items into a classification for operational purposes which were processed on the basis of taxonomies formed by P.H. Phenix (1964) and J.T. Tykociner (1964).(1) The classification provided a weighting of the contents of those areas in which learning goals would later be formulated. A rough psychological classification resulted in 68 per cent cognitive goal areas, 24 per cent affective goal areas and 8 per cent psychometoric goal areas.

The weighted occupational fields, the general content goals, a criterion for the selection of people and a conception for the formulation of learning goals together formed the prerequisite for the concrete formulation of learning goals by 79 people. The 8 classes of the universal framework approach proved to be too detailed in the preliminary experiments. A reduction to 6 classes was therefore necessary. Table 1 shows the result of this.

The 79 people selected to formulate the learning goals came from various of the German-speaking regions of Switzerland (not only from the canton Zug) and they were chosen on the basis of the following: familiarity with the 57 occupations; manifest support of innovation;

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1) P.H. Phenix: Realms of Meaning. New York 1964 (McGraw Hill).
J.T. Tykociner: Zetetics and Areas of Knowledge. In: S. Elam (ed.): Education and the Structure of Knowledge. Chicago 1964, 121-147 (Phi Delta Kapa).

Table 1

FRAMEWORK OF GENERAL CONTENT GOALS AND THE NUMBER OF COMPONENT LEARNING GOALS

| Classification | Former classification (8 classes) | Number of goal areas | Percentage weighting | Prescribed weighting for learning goal formulation | Learning goal a) total b) per cent |
|---|---|---|---|---|---|
| 1. Living conditions | Area of cognitive determination | 30 | 8 % | 1/10 | a) 130 b) 8,6 % |
| 2. Musical and aesthetical | Musical and aesthetical area | 52 | 12 % | 1/10 | a) 185 b) 12,2 % |
| 3. Languages, mathematics, flow of information and cognitive methods | Symbolic information area (16%) + zetetic area (4%) | 84 | 20 % | 2/10 | a) 415 b) 27,5 % |
| 4. Natural sciences and technology | Scientific and technical area | 40 | 10 % | 1/10 | a) 136 b) 9 % |
| 5. The person as an individual | Personal-individual area (10%) + synoptical area (10%) | 83 | 20 % | 2/10 | a) 316 b) 20,9 % |
| 6. Society and economy | Social-economic area | 133 | 30 % | 3/10 | a) 329 b) 21,8 % |
| | | 422 | 100 % | 10/10 | a) 1511 b) 100 % |

conscious identification with human rights; membership in one of the following groups: "recipients of school graduates",(1) "educator or teacher in related school areas or in occupation-oriented courses", "employee in one of the envisaged occupational fields". In addition, the 79 people had to be geographically, politically and in age widely diverse.

The group formulating the learning goals met in different cities for sessions lasting about 3 hours. They were given - as instruments for formulating objectives - the taxonomies which were simplified into 6 categories along with the occupational lists with the

1) The term "recipients" indicates here the teaching staff of the schools likely to receive the pupils after they graduate from the experimental school.

occupational fields. General concepts replaced the 422 individual items because the general taxonomy functioned merely as a regulator. In other words, each person formulating the learning objectives was given the 6 categories with the corresponding weights and a number of superimposed concepts corresponding to the weighting which served as a stimulus (for example, the area of "music and aesthetics" with the scale of 1/10: the superimposed concepts music and dance, educational arts, poetry and theatre, photography and film, style of living space, leisure time, place of work, living room and play room).

The 79 people received lists of verbs that appeared in our own work and in the work of others(1) since various studies have shown that non-psychologists usually think in terms of relatively simple cognitive learning goals and seldom those that are more complex cognitive, affective and even motoric.(2) The learning objectives are intended to encompass 4 elements, namely (a) life situations or rather areas of qualification with substantiating character, (b) activities or, as the case may be, behaviour, (c) items or objects and (d) adverse behaviour conditions, dispositions, attitudes, interests, evaluative standards. The learning objectives should, in addition, aim for an average degree of abstraction (example: a graduate independently uses general sources of information such as dictionaires or atlases in writing a newspaper article; he reads parliamentary reports in the newspaper, and so on).

The 79 people formulated 1,511 goals (see Table 1). The class "society and economy", with a share of 21.8 per cent of the total number of learning goals, received a much smaller number than was proposed in the framework (30 per cent), whereas class 3, "language, mathematics, information flow and cognitive methods" was given 27.5 per cent which was 7 per cent more than expected. If one attempts to cover the 1,511 learning goals with traditional subjects such as

1) B.S. Bloom et al.: Taxonomy of Educational Objectives. The Classification of Educational Goals. Handbook I: Cognitive Domain. New York 1956 (McKay).

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2) K. Frey, U.P. Lattmann: Effekte der Operationalisierung von Lernzielen. In: Schweizerische Zeitschrift für Psychologie. 30 (1971) 119-127.

mathematics, history, geography etc., one recognises that a classification of the curriculum according to these disciplines is not possible: different combinations of subject groups have to be formed to relate to life situations or classes of behaviour or interpretational approaches to reality. The need for a lot of new content becomes clear when comparison is made with the curricula for standard occupational courses or with the traditional preparatory courses for university entry. The development of one's environment, learning methods, association with remedies, beauty treatment, conflict resolution etc. are examples of this model. It is difficult to recognise a division between specific academic matters, school topics and extra-curricular activities. Teaching personnel with new qualifications must be found and engaged to correspond with the new learning goals - for example, psychologists, social workers and pharmacists.

## 5. SOME METHODOLOGICAL RESULTS OF THE ASSESSMENT OF LEARNING GOALS

1. The number of learning goals in the individual classes corresponds generally to the weighting of the classes by the planning committee. This fact is worthy of note because, in one part of the assessment, emphasis was placed on the desire to formulate a number of learning goals corresponding to the weight in the separate classes.

2. The exterior form of the learning goals did not correspond with instructions and expectations in many sections. One or two learning goal elements were frequently missing. An individual and longer time for learning the formulation techniques must be introduced in future.

3. The funding of the goals for the new school by way of various phases must, for the greater part, be described as very costly. The expenses of private school districts that cannot work with university research centres are, for the most part, too high. Depending on the amount of work, the participation included 2-4 scientists, educationalists and student teachers and, to an extent, volunteer workers and the part-time planning committee.

4. Additional numerous hypotheses were formulated in accordance with standard research practice and these were then tested by means of empirical experiments. The first point of interest was whether the overall goal conceptions of the complete school planning could be rediscovered in the concrete learning objectives, and whether the formulation technique was successful. For this purpose, three judges have categorised all of the learning goals with a three-level

classification on the basis of the following criteria: 1. emancipatory tendencies, 2. innovative orientation, 3. level of abstractness and clearness, 4. independence and originality. The number of formulated learning goals per person were determined. In addition, it was attempted to gain certain possible predictions of the results of the group formulating the learning goals by using standardised scales.

A personality test and three attitude scales were employed. The attitude scales measure i) authoritarianism,(1) ii) conservatism (2) and iii) machiavellism.(2). The conception of the personality test was based on the "Fribourg personality inventory"(3) with the following 12 dimensions: nervousness, aggressiveness, depression, excitability, sociability, composure, strive for dominance, inhibition, openness (self-criticism), extraversion, emotional instability and masculinity.

The data from the different research instruments were studied with regard to the four participating groups of people (recipients or students, experts in the area of education and educational policy, educator or teacher in related school areas, employee or rather worker presently employed in the field of the possible occupations). The statistical processing of the data referred primarily to group differences and computations of correlations. The following comprehensive results give an account with regard to the general question as to who should formulate the learning goals with respect to the overall education goals:

No significant differences appeared with regard to the curriculum theoretical-oriented criteria (number, completeness of the elements, situational association, independence and originality, level of abstraction and clearness). We interpreted this as an indication of the utility of the evaluation of the learning goal models - at least with respect to the formal controls. The expected contradiction between recipients and experts, which was made even more obvious and clear by using the personality data, appeared in relation to the practical school - and social-oriented criteria. The recipients, in comparison with the experts, appeared to possess less emancipatory tendencies and increased striving for dominance (carrying out one's own interests, egocentric philosophy, tendency to authoritarian-conformist thinking etc.) and a more distinct authoritarianism. It was furthermore shown that, with the exception of those who held "occupational positions", the remaining formulating groups were

1) M. von Freyhold: Autoritarismus und politische Apathie. Analyse einer Skala zur Ermittlung autoritätsgebundener Verhaltensweisen. Frankfurt 1971.

2) B. Cloetta: Fragebogen zur Erfassung von Machiavellismus und Konservativismus. Konstanz 1972 (Universität).

3) J. Fahrenberg, H. Selg: Das Freiburger Persönlichkeitsinventar FPI. Göttingen 1970 (Hogrefe).

especially positive in at least one of the judging criteria. This indicates at the same time that it is convenient to include the most comprehensive and manifold spectrum of people in the evaluation of the learning goals so that the largest possible number of viewpoints with regard to world affairs and social policies may be considered. In doing so, one must also keep the parents of future students and the students themselves in mind - which was not required in the EBAC-WS project.

The number of those holding "occupational" posts could be reduced as a first step if, for some reason, the circle of participants had to be smaller. The co-operation of the experts, on the other hand, should in no case be sacrificed.

A second important line of questioning concerned the influence of the personalities of those formulating the learning goals. Correlations between the learning goal data and personality data were nevertheless quite negligible.

It was shown that the emancipation-oriented learning goals were formulated most frequently by those authors who were open and self-critical themselves (for example, realising and admitting small weaknesses and mistakes), who show relatively little authoritarian forms of behaviour, who possess healthy self-confidence and who accept innovations. It was also interesting to note that an increasing innovative orientation was accompanied by an increased tendency to manipulate.

The learning objectives formed the basis of the differentiation of the new school - and that in two respects. The 1,500 learning goals (not individually but rather as groups and classes) supplied targets for the setting of goals and for the creation of future learning situations. The learning goals also demonstrate interest in the form of the new school on the part of those <u>indirectly</u> involved. On such evidence of interest, those <u>directly</u> involved (e.g. teachers and pupils) can start on the process of realisation and replace some of the people engaged on Phase I. With this shift in responsibility goes the beginning self-organisation by those immediately concerned. Hence, the "Grosse" committee ceases to have direct influence on school planning and acts instead as the authority responsible for submitting draft bills to the various interested bodies for comment before they are formally introduced in parliament. The research scientists do not fundamentally change their role. They continue to make information available which is discussed, accepted, rejected, applied or further developed by the teachers, administrative officers and pupils. The representatives of the research side will still advance their own notions of goals and needs for activity and these will be considered in balance with the other factors pertinent to the development of the curriculum.

Table 2 shows the interrelationship between the research function and the activities of those indirectly or directly involved in the development of the new school. This also clarifies the process of successive differentiation. Whereas the "goal area", "occupational fields", "criteria for the selection of learning goal formulators" and "formulation instruments" only function as frames of reference, the "learning goals" already indicate a pre-view of the school that is specific in content, without anticipating detail or organisational structures. These will only take shape in the course of the realisation of the learning goals and actual practice in the school. This realisation will turn on additional information in the form of rules, interpretations and activity preferences as the following brief description demonstrates.

## 6. STRATEGY FOR THE CURRICULUM DEVELOPMENT

### MAIN PHASE II

1. The 1,500 learning goals were first of all categorised in accordance with the taxonomy already described. The compilers combined them further within the 6 groups on the basis of the similarity of their content and broke them down into about 50 so-called learning areas. 20 teachers, most of whom subsequently taught at the school, analysed the learning goals that were contained within these areas.

The analysis proceeded (a) on the basis of super-ordinate thematic context of the learning goals within a learning area (example: social structure in the learning area "society"), (b) on the basis of the main contents of the learning goals (appropriate example: transparency of social decisions), (c) according to the psychological dimension and the behavioural level (example: cognitive, familiarisation), (d) on the basis of purpose, or rather, life situation (example: coping with everyday life). The 1,500 learning goals were very heterogeneous in character because of the short training period allowed for those formulating them. Thus, much depended on the interpretation of the analysts. The analyses were undertaken by two people in order to reduce distortions arising from the personal goal conceptions of the analysing teachers.

The learning objectives and analyses of these goals provided the basis for working out (2) the timetable, (3) the course curricula, (4) the basic organisational concept of the school as well as (5) its guidelines and intended behavioural dispositions.

2. Working out the timetable: The 50 learning areas were partly structured in such a manner that they could be sorted out as independent courses, for example: world religions or the Third World.

Table 2

INTERRELATIONSHIP BETWEEN THE RESEARCH FUNCTION
AND THE ACTIVITIES OF OTHER PARTICIPANTS IN PROJECT EBAC-WS

| | | |
|---|---|---|
| Entire population of the canton Zug | 1968<br>educational law | |
| | 1970/75<br>school-theoretical reference concept | research scientists |
| Planning Committee (PC) (represents the Zug population according to interest groups, etc.) | 1970/71<br>frame for the learning goal formulation | |
| PC | a) goal areas | |
| "experts", PC | b) occupational fields | |
| PC | c) criteria for learning goal formulators | research scientists |
| PC | d) tools for the formulation of learning goals | research scientists |
| 80 people (according to criteria for the entire population of German-speaking Switzerland) | 1971<br>learning goal formulation | |
| | 1972-75<br>transformation of the learning goals; working out of detail structures | |
| | a) combination of the learning goals into 50 learning areas | research scientists |
| Teachers/Students | b) timetable arrangement | research scientists |
| Teachers/Students | c) course curricula | research scientists |
| Teachers/PC/Students | d) organisational structure of the school | research scientists |
| PC/Teachers/Minist./ Outsiders/Students | e) guidelines of the school | research scientists |
| Teachers/Students | 1975-76<br>Evaluation | research scientists |

Other areas (for example, physical-chemical basic concepts, technical instruments, environment and planning) were combined further into an integrated mathematics science course. The proportion in time of the individual courses is roughly proportional to the number of formulated learning goals.

3. Working out the course curriculum: conversion of the general aims into course-specific guidelines, disposition objectives and learning objectives: The course curricula were developed according to the so-called goal-level model(1) which was extended by a fourth level:

i) The guidelines provide, as generally established statements of ideals, the frame of reference and the logical basis for the individual courses;

ii) Dispositions describe behavioural disposition tendencies, attitudes, habits etc.:

iii) Learning objectives partly have the structure of final behavioural objectives and of process objectives or cognitive learning goals without clear-cut behavioural elements. They are described as learning goals in contrast to the above-mentioned overall goals (of the school) of the evaluation and are formulated by the teachers and therefore do not coincide with the goals of the assessment;

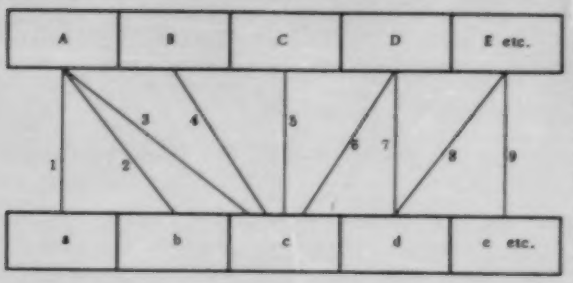
iv) Analysis of the course-specific learning objectives: In contrast to the above-mentioned analysis of the project or school goals, this analysis attempts to determine from which sub-goals, components, steps or sub-performances a course-learning objective evolves. This procedure provides the teacher and others with a planning and control instrument.

A formula was made for each learning area by analysing the learning goals with the above-mentioned components and in which only two components were given further consideration, namely the superordinate thematic context and the intention of the individual learning objective. Each learning objective can be provided with a corresponding intention and superordinate thematic context. See Figure 1.

As can be seen from Figure 1, a goal can be connected to more than one thematic context or vice versa. Examples from the learning subject "society" would be goals such as "evaluation capability", "democratic behaviour", "broadening of knowledge", "involvement"; in a superordinate thematic context, something like "social

1) J. Eigenmann, A. Strittmatter: Ein Zielebenenmodell zur Curriculumkonstruktion (ZEM). In: Aregger K., Isenegger U. (Hrsg.): Curriculumprozess: Beiträge zur Curriculumkonstruktion und -implementation. Basel 1972, 65-128 (Beltz).

**Figure 1. ARRANGEMENT OF PURPOSE AND SUPERORDINATE THEMATIC CONTEXT OF THE LEARNING GOALS**




Goal (provides the behaviour disposition). The connections 1-9 each represent a learning goal of the project which is associated with a specific purpose and context.

Superordinate thematic context (provides the school's overall learning goal).

structures", "social systems", "equal rights". The class formation of goal and context arose partly intuitively and/or according to already existing discipline inherent theoretical structuring experiments. The setting of a class of "superordinate thematic contexts' clarified the frame of contents in which one or more learning goals specific to the school situation could be formulated. An attempt was made to take the connections represented in Figure 1 into consideration in so far as the learning goal takes on a certain quality according to the goals with which it is connected.

The setting of a class of goals or "purposes" gave rise to (behaviour) disposition. The assumption made here is that the goal itself is to be understood as the goal of the instruction and can therefore assume the structure of a latent behaviour or attitude goal. The guiding principles of a learning area arose only partly from learning goals identified in the project. The subject matter of the involved curriculum developers was another source of information. The final formulation of the learning goals, dispositions and guiding principles occurred in a mutual selection process and has been shaped by the school experience since the opening of the Advanced Education School. The aim of the scientific advisers was to keep the process of realisation of the school goals clear and consistent at all times. Eventually, the individual learning goals were analysed according to their component steps, goals or achievements. In order to avoid arbitrariness, use was made of three (four - if the learning goal analysis is counted) goal levels per curriculum course. These goal levels are mutually related and the guiding principles supply the legitimating framework for the remaining levels. The whole attempt to avoid arbitrariness was ambitious and not easy to realise.

4. Working out the school's basic organisational concept: The organisational concept was originally worked out as the result of the concrete learning goals. In this manner such things as a new administrative strucure, team-teaching, the introduction of a social worker, a psychologist or a pharmacist were justified.

5. Working out the school's overall guidelines: The disposition objectives of the course curricula were analysed with respect to whether they are relevant to individual courses or for several courses. In the second case they would be taken from the course curriculum and would be placed as dispositions of the school before the curriculum as a whole. The school's guidelines refer back, as do the main guidelines of the course curricula, partly to the evaluation of the learning goals and partly to the subject competence of the formulators. They came about in an intensive processing which was partly designed as a rational discourse.(1) They entered into an extensive procedural discussion with the teachers, officials, representatives of the former cantonal planning committee and parents. The students had the possibility of influencing the formulation of the main guidelines. Their direct contribution was minimal except for contributions by way of the teachers. The reason for this was probably the fact that the main guidelines contained minimal course-specific contents or that the technical language was too difficult for the students.

The guidelines contain (a) an analytical description of the present situation in interrelated topics touched upon by the main guidelines, (b) a short determination of the relationship between these interrelated topics and the school as an institution, (c) several interpretations in the form of goals and (d) several inferences for work and organisational structure in the school. The titles of the main guidelines were formulated with reference to Hentig(2) in order, among other things, to attain a certain comparability.

The four above-mentioned items (a to d) were included in the written curriculum. The curriculum also contains additional elements such as judging procedure and a list of teaching devices.

## 7. SOME EXPERIENCES IN CURRICULUM DEVELOPMENT

After the evaluation (cf. the following section) and reflexion of those involved, the following parts of the development process raised problems.

1) P. Füglister: Zum Problem der Begründung und Rechtfertigung von Lernzielen. Konstanz 1971 (Universität: Monographien zur Hochschuldidaktik 4).
K. Frey: Rechtfertigung von Bildungsinhalten im elementaren Diskurs. In: Künzli R. (Hrsg.): Begründung und Rechtfertigung im Curriculumprozess. München 1975, 103-129 (Kösel).

2) H. von Hentig: Allgemeine Lernziele der Gesamtschule. In: Lernziele der Gesamtschule. Stuttgart 1971, 13-43 (Klett).

A principal difficulty in curriculum development was the transformation of the learning goals from the assessment by different interest groups into instruction-like guidelines, attitudes and learning goals. The analysis method used for this proved to be very costly. It is particularly necessary to investigate which components should be dropped, replaced or changed in analogous transformations. It would be conceivable to treat the learning goals as a learning goal bundle and not separately. The learning goals might only serve in the weighting of shares of different learning areas within which learning goals, e.g. in discussion, are to be formed by teachers, experts and perhaps by students.

The development of the curriculum document had the strongest priority before the opening of the school and - together with school judgement processes - in the first two years after the opening. The training of the teachers and experts (lecturers) with no previous instruction experience in new teach-learn-forms (strong emphasis on group instruction, team-teaching) thus came off badly due to a shortage of time. Questions relating to practical instruction were referred to the instruction adviser. This was institutionalised right from the beginning.

A conflict of goals expressed itself in that several teachers had focused their attention exclusively on the planning of the Advanced Education School whereas the research scientists, on the other hand, had focused their attention on the creation of a type of school which was to experience its first realisation in the Advanced Education School. Clarification of these interests should go beyond mere verbal exchange in ad-hoc discussions, as was the case in the Advanced Education School. Role specifications should be carried out in specially convened meetings. Use of other school and curriculum processes (still only slightly tested) would too often lead to the deferment of fixed dates. Network-plan techniques were partly employed but proved to be of little use since meeting unexpected needs and the clarification of difficulties exceeded the allotted buffer times. Lastly, an operationalised description of real product goals was only available in a few subject areas (e.g. learning goal assessment). This proved to be a problem later on, in the evaluation.

## 8. THE INTEGRATION OF CURRICULUM DEVELOPMENT, EVALUATION AND TEACHER ADVANCED EDUCATION

As already mentioned, teachers began to participate in the project in its second phase. Their selection was effected with respect to the foreseen courses which, to a certain extent, demanded new and different qualifications. The team was put together heterogeneously

consisting of: teachers with different qualifications (diplomas as teachers of special subjects, academic examinations or shortly before the achievement of the final examination), social workers, theologians, psychologists and pharmacists. In the choice of teachers attention was paid to other qualifications besides instructional capabilities, for example readiness to co-operate, identification with the goals of the school, previous commitment to other activities (at present, a study group is working on the revision of the terms of employment). At the beginning of the first teachers' meeting work was begun on the conception of curriculum, i.e. teacher advanced education and familiarisation with curricular and instructional questions had concrete curriculum development as a topic as already described in Section 6. This had negative consequences inasmuch as the teachers were able to contribute little in the choice of procedures and came off badly in participation in decision-making. For other projects (a) a longer training period, and (b) a more flexible method of procedure should be allotted in Phase II. Teacher advanced education was already institutionalised in the first school year and set for ten days per year. Since the autumn of 1975 it has been organsied as follows:

- teacher advanced education of the first type: treatment, methodological and instructional questions, further qualification by non-resident speakers, obligatory for all, two to three days.
- teacher advanced education: treatment of school development and evaluation questions, further qualification by the teacher himself, division into work groups whereby every group should meet, as a rule, every two weeks for two-hour sittings (equivalent to seven to eight days).

Students may take part in the advanced education, depending on the topic. Present work groups are: employment of teachers, practicals, team-teaching, democracy in the school, judgement techniques, timetables: languages, recording techniques. The advanced education seminars have been compensated. Unlike the beginning of the project, the topics are decided by the teachers (and students) in accordance with the spirit of an extensive self-organisation of the school. The advanced education programmes are worked out on a yearly basis but go through considerable changes during this time, e.g. through the introduction of new work groups or the dissolution of existing groups after the treatment of an object of evaluation.

## 9. EVALUATION IN THE PROJECT

The evaluation consists of two phases and, thus, of two types of evaluation. The first includes the planning and development up to the beginning of instruction, whereupon the second phase takes over, encompassing the realisation of the curriculum and of the whole school concept.

The planning and development work is considered in the first phase - that means, among other things, the strategy and implementation for the assessment of the learning goals, the analysis of the learning goals, the working out of the school's concept structure, the development of curriculum courses, the guiding principles of the whole curriculum, the personnel decisions and the constitution of the new school's management. Since the responsibility for this phase lay with the democratically elected planning committee, the evaluation of the activities, procedures and goals took place by way of feedback to the highest level (namely the planning committee) which possessed the overall authority both in the planning and development phases. In practice, the evaluation was completed as follows: the planning committee approved the procedures, goals and results of the school development before their introduction and after their realisation. This sort of first phase evaluation oriented towards the locus of authority was responsible for modifications in the first desired result, as, for example, in the development of the contents of the frames of reference used in assessing the learning goals. Evaluation in this sense meant authorising those curricular procedures and results introduced by the group of scientists and individual members of the planning committee.

This same first evaluation phase was marked by individual empirical investigations of concrete problems, wherein the theoretical background took the form of hypotheses. The research group formulated (especially in the case of the assessment of the learning goals) a whole series of hypotheses, for example on those groups of people who are more capable of comprehending innovative, more subject-specific, or just plainly, more, learning goals. The design of this survey related closely to the classic form of scientific studies on educational innovations and experiments. Important results of this investigation have been published.(1)

The second evaluation phase was intended to encompass the results of the whole curriculum and school planning. The preparation of an evaluation plan for this purpose was begun during the development of the curriculum and before the opening of the school. The

1) K. Bossart (1975a): Verfahren zur Lernzielerhebung, Basel 1975 (Beltz).
K. Bossart (1975b): Persönlichkeitsmerkmale von Lernzielformulieren. Basel 1975 (Beltz).

concept of this evaluation differed decidedly from that of the first phase. This can be readily illustrated by an examination of the evaluation literature.

The greater part of this literature deals with curriculum or individual's learning evaluation and hardly touches on the evaluation of the school as a whole. Many authors still identify the concept of evaluation too closely with the concept of education measurement. Likewise, there exists a large literature on the problems of assessment: evaluation models are presented that are extremely difficult to apply to one's own concrete needs. These basic principles and guidelines are to be observed during evaluation, for example, as in diverse differences such as formative opposed to summative, internal-external evaluation. What is lacking most of all is experience reports describing the evaluation knowledge used and the methodological difficulties that arose.

The accompanying empirical research has shown that in complex educational fields the possible influences cannot be determined to their full extent, and consequently a large number of intervening variables must remain (provisionally) uncontrolled. Three types of investigation may be applied in the examination of new schools or school systems.

a) Comparison of the type of school concerned with the previous school system;
b) Comparison of the type of school concerned with parallel schools;
c) Comparison of the type of school concerned with the aims set out by the school itself (guiding principles).

Since this new school is only just being built, a useful comparison with other schools is not possible. Evaluation as in (c) above would therefore seem to be the most rewarding.

An approach should be chosen that gives special consideration to the needs of the people partaking in the project. The evaluation process is continually influenced by the many different groups and the constantly appearing evaluation results. The representation of the concept in the form of a circular system or feedback system(1) corresponds most closely to the dynamic character of the type of evaluation we have in mind.

1. Preparation of the evaluation plan

Included here are several decisions that have a preparatory role in the evaluation plan but are already part of the evaluation process.

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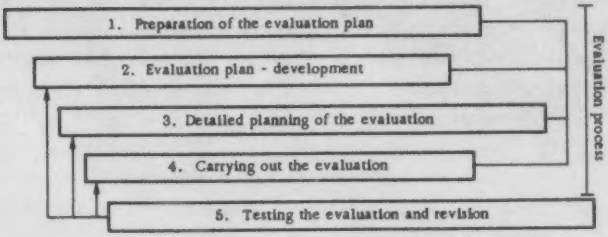
1) K. Aregger: Lehrerzentrierte Curriculumreform. Bern, Stuttgart 1974 (UTB), p. 94.

**Figure 2. EVALUATION CONCEPT AS A CIRCULAR SYSTEM WITH 5 PHASES IN THE EVALUATION PROCESS**


1. Preparation of the evaluation plan
2. Evaluation plan - development
3. Detailed planning of the evaluation
4. Carrying out the evaluation
5. Testing the evaluation and revision
Evaluation process

We carried out our first investigation with the object of (a) evaluating the scientific supervision used up to that point in time, and (b) and asking the teachers about their further need for such supervision. This yielded information about the form of further co-operation, and the latter result was supposed to tell us whether evaluation was actually required.

A new two-year contract to cover this continuing evaluation was signed by the education authorities (Ministry of Education) and the research group (FAL). This laid great emphasis on the evaluation of the school and curriculum as well as the working out of a legal framework for internal decision-making leading towards more self-administration for the school.

The evaluation of the present scientific supervision as well as the discussions with the teachers led to formulations of the goals for the continuation of the educational investigations and advice on the project. An evaluation plan is to be developed that takes particular account of the teachers' evaluation needs and gives them greater confidence in the solving of problems independently (teacher-centred evaluation process). Other members of the project were also included in the formulation of the problems. What we had in mind with this undertaking were practice oriented questions, a more precise qualification of those concerned and being adequately able to solve our own problems so that we could promote the new school in the direction of a self-regulating system. Moreover, the evaluating results should flow directly into the new school.

## 2. Evaluation Plan Development

The evaluation plan methodologically satisfies the following two criteria: (a) the evaluation fields should be identified by the groups or institutions taking part in the project; (b) the evaluation fields should satisfy the selection criteria developed co-operatively by the teachers and researchers.

a) We questioned the following groups in interviews as to possible objects for evaluation within the scope of the Advanced Education School: students, teaching team, directing committee, education authorities, mayor/principal (superintendent), research group.

The replies were transformed into processable question headings and arranged into four sub-systems "curriculum", "instruction", "information and interaction", "planning and finance". Within these four sub-systems relevant questions were reduced to 30 evaluation fields. Examples are: procedure specifically for evaluating the learning goals, the social form of group instruction, the revision of the 1972 preliminary curriculum and the determination of its possible worth in the new school.

b) It did not appear possible or opportune to evaluate all 30 fields so we had to set criteria allowing us to select. From a list of 20 possible criteria, the following five were selected by teachers and researchers to serve the development of the evaluation plan. These were criteria for "feasible evaluation" which both the teachers and researchers had chosen independently of one another. Evaluative activities would have to correspond to the following criteria:

Criterion 1: Realisation of the general goals of the school.

How much does the evaluative activity area concerned help to realise these goals and to what extent can they not be reached without processing the relevant field?

Criterion 2: Degree of disturbance of school development by the possible evaluation field/Importance for instruction.

How much does the activity area concerned represent a problem of, for example, instruction or interaction that hinders the functioning of the Advanced Education School?

Criterion 3: Degree of relevance for the school members/ Importance for instruction.

How relevant are the results obtained from evaluating the field or topic for the Advanced Education School, and specifically for the teachers and students?

Criterion 4: Importance for school policy (school reform). Transferability of the results to other types of schools.

To what extent would fruitful results from the processing of the relevant activity areas be deemed important enough to make them available to other schools.

Criterion 5: Degree of novelty of the evaluation field.

To what extent is the evaluation of any particular area an innovation?

The use of these five selected criteria leads to the evaluation fields of priority. After having thus discarded 20 fields, the teachers and/or researchers worked out exact questionnaires and methods

## 10. FINAL REMARKS

Considering the diverse and costly planning of the Advanced Education School, the justified question arises whether or not this new school has achieved a sizable effect. Here, the following must be mentioned as relevant.

- Since the beginning of planning, interest in the Advanced Education School was great. Teachers, students and associates of the FAL have spoken about the school on different occasions. (Already during the planning of the school an industrial undertaking made a contract - with the takeover of procedure and working papers as its subject - with the FAL.) On the other hand, the school often gets visits from interested parties who are concerned with the reform of the nature of schools.
- The part-curriculum of the school was sold as a result of a large-scale subscription in 110 copies (order forms and brochures may be obtained from: Forschungszentrum-FAL, Universität, Rue de l'Hopital 1, CH-1700 Fribourg (Switzerland).
- The Advanced Education School is also represented by its coordinator in the study committee "Diplommittelschule" which has been in existence since 1975. The committee has the task of preparing guidelines for the future type of school for the "Diplommittelschule". Here some basic desires of the Advanced Education School could be brought in.

The extent to which the Advanced Education School can be applied outside the canton as a model either in part or in its entirety and the extent to which it can assert itself as an alternative to other schools cannot yet be determined.

# V. SCHOOL-BASED CURRICULUM DEVELOPMENT IN AUSTRIA POSSIBILITIES AND PROBLEMS

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## 1. THE TERMS CURRICULUM, SCHOOL, AND TECHNICAL EDUCATION IN AN AUSTRIAN CONTEXT

### Curriculum

When modern curriculum theory was first developed, the word curriculum already existed in English but not in German, and this is more than a coincidence. Even now the term curriculum is only used by Austrian researchers, not by teachers, administrators, or politicians.

Behind this state of affairs lie differences in the conception of education and, even more so, in the role of central institutions in educational development. The more power is wielded by the educational bureaucracy, the greater the likelihood that the term curriculum will be restricted in meaning to those areas in which administrative influence can be easily exerted.

This can be illustrated by the following tabulation:

Lehrplan
- general goals
- school organisation (systems, types, streams, grades)
- school subjects
- periods
- contents
- textbooks
- examinations

- methods of teaching
- interactions
  - teachers - teachers
  - teachers - students
  - teachers - parents
  - school - other institutions

All of these items, together with others, are elements of the curriculum in international usage (OECD 1975), whereas in Austria the term curriculum is still used in the sense of syllabus or Lehrplan, i.e. those regulations which can be centrally administered.

A Federal Act stipulates that there shall be a syllabus for each type of school and that it shall consist of a general part (list of subjects and number of weekly class periods assigned to each subject in each year of the course; general aim of the course) and of a special part arranged by subjects (special task of the subject within the course, subject matter for each year, methodological guidelines): the syllabus shall be published as an Ordinance of the Minister of Education.

The list of subjects is essentially contained in the above-mentioned Act itself and copied into the syllabus.

The weekly class periods assigned to each subject are a major matter of political concern whenever a syllabus is changed; subject teachers are interested in the largest possible share for their subject, and outside pressure groups also exert their influence for broad coverage of certain areas of subject matter.

The general aim of the course frequently rephrases the function of the school as implied by its type name; other redundancies are not uncommon.

The special task of the subject is frequently formulated in a way that tends to encourage the lecture method (presentation of ... insight into ...).

The subject matter is considered to be the most important part of the syllabus by most teachers and inspectors. It is basically a list of topics to be dealt with, no indication being as a rule given of breadth or depth of treatment.

The methodological guidelines contain advice about the use of teaching materials, other hints about effective teaching methods, and regulations about the number of written hour tests (in the few subjects where such tests are permitted).

Other parts of the curriculum are considered by Austrians to be mere handmaidens to the syllabus. For example, textbooks must be government approved; approving boards (mainly composed of teachers) use compliance with the syllabus as their main criterion. Consequently teachers are strongly influenced by the approved textbook they select for their courses: being more detailed and hence more teacher-proof than the syllabus, it ensures that its users will cover the syllabus even without major planning efforts on their part. Other teaching materials, especially audio-visual aids, are also subject to government approval but may also be used unapproved if a teacher takes the time to check them against the syllabus and other regulations before use. Student assessment is only covered by general regulations contained in another Federal Act and an ordinance thereto; differentiation between types of schools and between subjects is minimal.

With the weekly class periods assigned to each subject and the list of topics to be covered in the centre of curricular thinking, it is not surprising that a teacher's prestige should to a large extent depend on

a) the share allotted to his subject(s) in the total course;
b) whether his subject(s) form(s) part of the final examination at the end of the course (an examination administered by the student's regular teachers under the supervision of an inspector);

c) the level of his academic knowledge in the fields prescribed by the syllabus.

School

In the centralised educational system of Austria, all types of public schools are listed in the School Organisation Act, and for each type there is a common syllabus of nationwide application. The schools being part of public administration, no reason is seen why two schools of the same type should differ more than, say, two revenue offices; inspectors are expected to enforce this doctrine. Hence, the name of the school is the type name qualified by the location of the school and occasionally a number; "proper names" are extremely rare.

Private schools must comply with the same regulations as public schools in order to be accredited, unless they can find a niche between the numerous well-defined types of public schools.

It is not uncommon for a teacher to be employed at several schools at a time; he may also be transferred to another school (for administrative reasons or on his own initiative) during his career. It is also fairly common for a teacher to have no colleague teaching the same subject(s) at the same school, nor are there department heads for individual subjects (excepting practical subjects, such as workshop and cooking). On the other hand, teachers of a subject are organised across school boundaries in provincial or nationwide "working parties" for purposes of further education (attendance at meetings is optional).

As a rule, a teacher is not required to remain in the school beyond his actual teaching hours; as a corollary, few if any extra-curricular activities are offered.

Since under the Austrian Constitution each act of administration must be based on some Act of Parliament, the legal leeway for diversity between schools is quite small. The school is not conceived as a distinct social unit and thus cannot become active as such. It is rather the individual teacher within the school who is perceived by society as the unit. The school as an institution has no important competencies but is directed to fulfil delegated administrative functions with a minimum of elbow-room. Teachers' staff meetings, e.g., are not considered as a framework for co-operative decision-making by teachers but as an instrument of school administration mainly for decision on student grading and student promotion. Participation is seen as an administrative duty with little or no relevance for the designing of instruction. There are only a few public and private schools which have gained a measure of informal independence, generally owing to the personality of the head.

There are two basic arguments offered in support of this concept of the role of the individual school:

a) it is felt that only uniformity of syllabus can ensure an efficient supervision of schools;
b) a student should have the right to move within Austria and find his way about his new school with minimum losses.

School-based curriculum development

The background just provided must be kept in mind in any analysis of the term 'school-based'. At present the school is no adequate infrastructure that initiatives and autonomous problem-solving in curriculum development might be based on. It is not suprising, therefore, that in German the term 'schulnah' ('close-to-the-school') should be used in preference to the untranslatable 'school-based'.

Three indicators for school-based curriculum development can give some direction to the discussion of the problems involved:

a) the locus of decision-making is the school, or a group within the school;
b) the development activity can be justified under the norms of the systems needed for support;
c) development activities and school life are interwoven.

A few comments on these indicators seem desirable. For one thing, local decision-making has two implications: local teachers must have a certain degree of professional autonomy ("participation") in shaping the policy of the development activity. For another, this professional autonomy must be negotiated at school level, the price of co-operation being a reduction of individual autonomy in favour of participative research and development. Autonomy should rest within the professional community (Stenhouse 1975, p. 183).

School-based development activities must not constitute idiosyncrasies of a particular school or persons within that school. They should be justifiable by the norms of the support systems (primarily school administration, research and training institutions) and hence open to general adoption. In a sense, this indicator (b) runs counter to (a), because support systems not only justify, they also exert control, whether by direct bureaucratic power or by the subtler means of "expert authority". This conflict seems inherent in the concept of school-based curriculum development.

Finally, indicator (c) requires development activity to be fully integrated into what goes on at the school. This implies a good deal of consideration of specific local demands and of the situation of the school and of the community in developmental work. It also implies immediate use of products, know-how and values resulting from development.

Matching the Austrian system against these criteria, it will become apparent that the system does not support school-based curriculum activities; that, if anything, only approximations to this concept are at present attainable. Moreover, any school-based activities would have to reckon with serious shortages in infrastructure, such as school libraries, audio-visual hardware, and even copying machinery. Any improvement along these lines is frequently considered by funding authorities as unnecessary frills. After all, a school library would necessitate a somewhat larger school building (any rooms that might be converted into a library having long been converted into classrooms) plus considerable running costs for librarians, books and magazines. Unless teachers manage to obtain the use of these items of infrastructure outside the school system for themselves and their students, this bottleneck threatens to be a major obstacle to school-based curriculum development.

Technical education

Since much of this paper is devoted to analysis of a project in the field of technical education, a brief explanation of the place of technical education within the Austrian system seems called for.

Three categories of technical schools are distinguished by academic level:

a) part-time vocational schools for apprentices (age group 15 to about 18); graduates attain skilled-worker level);
b) full-time vocational schools (age group 14 to about 17; graduates attain level slightly above skilled worker);
c) full-time technical schools (age group 14 to 19; graduates are admitted to higher education and attain technician level).

The major fields for which technical schools exist (there are many subdivisions) are: industry, commerce, domestic science and catering, social work, agriculture and forestry.

The project deals mainly with full-time schools in the fields of industry, commerce, and domestic science. Students are admitted to these schools at the age of 14 by means of an aptitude test, which is passed by more than 90 per cent of the candidates. Courses typically feature 41 class periods per week, necessitating morning and (excepting Saturdays) afternoon sessions. Only the commercial schools, like general schools, have 33 periods per week and morning instruction only.

The major respects in which secondary technical schools differ from secondary general schools can be listed as follows:

a) there are approximately five hundred different subjects in technical education, compared with two dozen for general education;

b) the general aims of technical curricula have been fairly uncontroversial;
c) the polyvalence of technical education (including university admission) and the superior job prospects of its graduates tend to upgrade the public image of the technical system, whereas its larger share of lower-class students and widespread convictions about the inferiority of practical studies tend to downgrade it;
d) changes in science, technology, etc., enforce frequent revisions of technical syllabuses;
e) revisions of technical syllabuses must work under a larger number of external constraints, if none of the privileges of graduates, as determined by outside bodies (e.g. other ministries) is to be lost;
f) there are at least three groups of teachers with different training (teachers of general subjects, engineers and economists, workshop teachers) in the technical schools;
g) some teachers in technical education are hired with little or no previous pedagogical training; some are expected to teach subject matter that was not offered in their own training (e.g. technical English);
h) many types of technical schools have an ill-balanced sex ratio, both among the teaching staff and among the student body;
i) the teaching staff of technical schools generally includes a fair proportion of part-time teachers and of full-time teachers with side jobs;
j) some teachers in technical education, because of the nature of the subjects they teach, are barred from promotion to division head, inspector, or head (e.g., economists in industrial schools).

## 2. THE EARLY PHASES OF THE LEHRZIELBANK PROJECT

### Origins

The Lehrzielbank (Bank of Teaching Objectives) project in Austria was conceived at a meeting of a university researcher, who was to become the Research Director of the Project, and a Ministry of Education official, who was to become Project Coordinator. This meeting took place in 1970.

The idea was to develop and publish catalogues of specified teaching objectives for individual subjects in technical education. These were to be made available to all teachers of the subject in question, together with illustrative problems that might be used in

diagnostic tests. Criteria for the incorporation of objectives were to be desirability with regard to requirements for employment and for university studies to which students might transfer, as well as the requirements made by one subject on other subjects in the way of prerequisites; all three of these requirements as seen through the experience of the project teachers and subject to later modification by evaluation. The main aim of the Research Director at the time was the acceptance and improvement of diagnostic techniques in the schools; the main aim of the Coordinator was the establishment of syllabuses whose components could be examined for relevance.

The administration of the general schools was invited to join in the project but declined, mainly because of the difficulty of checking specified objectives against the hard-to-define general aims of the general schools and because of fears that such a scheme might lead to a curtailing of teachers' freedom.

It was decided that the project should be teacher-centred: the lists were to be developed by teams of (typically) four teachers, with one research adviser from a university and one administrative adviser from the Ministry of Education. The task of advisers was to monitor progress and to assist in the preparation of teacher-training seminars that were to accompany development work. The finished materials were to be distributed free of charge and without obligation to use them to all teachers of the subjects concerned.

Under a bureaucratic system, an activity of a previously unknown type proved difficult to fit into rules and regulations that were made for other kinds of activities altogether. Several legal blind alleys had to be explored until a way of paying the project teachers was found; the development activity counts as half a teaching load, and each case must be annually approved by two other Ministries. Another difficulty was to find premises within the crammed school system where up to four project teams (sharing the same adviser) could meet for a full day each week in close proximity. It took a year for these and other administrative problems to be solved, so that the first project teams started their work in 1971.

The mathematics project teams

It was decided to start work on mathematics for three types of technical schools, because the nature of the subject promised a minimum of difficulties in specification and because comparable publications were available from abroad.

Prospective project-team members were gathered in a seminar in 1971, where the nature of the project and the working conditions were explained to them. Teachers invited were outstanding mathematics teachers from the types of schools concerned, based either in Vienna or within a 150-mile radius of the capital (about 25 per

cent of Austrian teachers being ineligible for geographical reasons). Only about 40 per cent of the seminar participants agreed to be recruited, and two project teachers had to be found later (without benefit of a seminar) to complete the three groups. Work was started in September 1971.

Project-team members were to meet weekly (but could cancel meetings for individual work) and discuss the drafts submitted by members. The Research Director acted as rearch adviser for these three groups.

Before going into the development of objectives and problems, the groups spent considerable time in elaborating coarse and fine topic structures. It took a while for some project teachers' misconceptions that the materials were to be methodological in nature and that here was a chance to impose their methodological idiosyncrasies on others to be dispelled.

It was envisaged that the project teams would need a year for each year the subject was on the syllabus. This proved correct irrespective of the number of weekly periods assigned to the subject and of the size of the project team.

The finished materials consisted of a general introduction and a collection of objectives, one of which is reproduced in translation in Appendix A. Each objective was classified under a three-level scheme: reproduction - routine application - non-routine application. These levels were further clarified by the illustrative problems supplied with each objective.

There were some differences between the groups with regard to the design of materials. One team did not include problems or answers for some of the lowest-level objectives, insisting that these simple objectives needed no illustration. The work of the other teams tended to show, however, that the attempt to formulate problems for all objectives improved the objectives themselves considerably. As attainability was to be the main criterion for acceptance of an objective, two teams decided to incorporate only those objectives that they deemed attainable in class even under the worst possible circumstances (large classes, poor previous schooling and motivation of students, etc.). One team, however, preferred to include also those objectives that were only attainable under favourable conditions (without marking these as special in any way). The reason given was that a number of teachers who were not fully qualified needed this extra information for their self-instruction. (The project team may also have feared that a minimum collection might lead to a reduction in the number of class periods assigned to their subject.) Thus, in the former concept the teacher of an average class would either have to add a few objectives of his own or spend extra time on the canon, while in the latter concept he would have to select those objectives which he felt

he could omit. Teachers were generally happy about the detailed problem solution offered as an extra by the team subscribing to the latter concept but criticised the concept as such for failing to help them in the difficult task of subject-matter selection.

Dissemination and evaluation

Dissemination was effected as originally planned: catalogues were printed (different formats being experimented with) and sent free of charge to every teacher of the subject concerned at every school of the type in question throughout Austria; also to inspectors, university professors of mathematics, and employers' and employees' associations. Teachers recruited after publication received their copies as soon as the Project Director learned they had entered the system. In addition, background articles were published in the Austrian Journal of Technical Education and distributed free of charge to mathematics teachers (e.g. Mann 1974, Posch 1973).

Many teachers regarded the materials either as a kind of textbook or other teaching aid, raising objections like 'It doesn't contain everything I have to teach', or 'I can't do this and the textbooks, too', or as a diminutive item pool for prognostic testing, insisting that the problems were too easy or not complex enough.

Teachers were asked to return an anonymous questionnaire (see Appendix B). About 70 per cent responded and gave a fairly favourable verdict on the general usefulness and on their own use of the materials. They almost unanimously asked for the preparation of an item pool.

Teachers who volunteered were also sent a more detailed questionnaire. This led to the correction of some errors in the materials (ambiguous wordings, wrong answers, printing errors) and to an overview of uses to which the materials had been put.

Those recipients of the materials who were not teachers were asked to comment on them, particularly on the relevance of the objectives contained. The answers again identified a few errors in the materials but left the relevance question largely unanswered (Aigner 1975).

Seminars for mathematics teachers were conducted in three series, each series with a different main aim in mind:

a) to acquaint teachers with possible uses of the materials (these seminars reached about 80 per cent of all teachers);
b) to discuss the comments made by teachers on the detailed questionnaire (with mainly these teachers as participants; about 10 per cent of all teachers were reached (Schärf et al. 1975).

c) to enable teachers to construct informal tests on the basis of the materials (reaching about 25 per cent of all teachers).

Members of the project teams and the research adviser were in charge of these seminars. They were organised by the Vocational Teacher Centre of each of the nine Austrian provinces. In series (a), only those teachers who were ill or on leave of absence or engaged in final examinations,etc. did not attend; participants in series (b) mainly selected themselves by indicating on the questionnaire that they would like to attend. For series (c) the standard procedure for teacher training in Austrian technical schools was resorted to: the Provincial School Board was informed of the details and, knowing how many participants could be handled, assigned quotas to individual schools. The heads of schools then decided who was to be sent. All seminars were attended during the school year. Substitutes who took over the absent teacher's classes received extra pay, while he kept his full pay and was awarded travel expenses including a per-diem allowance as specified by law. There was no other reward, except a vague hope that the certificate of attendance might be of value for a teacher's later career.

Subsequent project teams

In 1972-75 new project teams were formed for other subjects (see below). While paralleling the work of the mathematics groups in most respects, the new teams did introduce some new aspects:

a) The workshop team, the only one so far to be composed of non-university-trained teachers, developed materials for the full-time vocational rather than the full-time technical schools, because the objectives of the latter are a subset of the objectives of the former (in other subjects the reverse is the case).
b) One group decided to construct a logical structure between individual objectives, justifying each objective either as a prerequisite of a later objective or as a terminal objective. This improved the quality of the objectives and might lead to a better basis for discussions of relevance.
c) Two other groups inserted pages with methodological hints and justifications for decisions taken by the project group; these were inserted between groups of objectives. This was favourably received.
d) New research advisers were recruited for some of these project teams.
e) Banks were found as sponsors for some of the publications for commercial schools, thus enabling reprints of out-of-print materials.

## Effects of the project teams' work

Members of the project teams, while frequently sceptical at first, were soon highly motivated. They went on record stating that they had learned a great deal, both in their subjects and in pedagogy.

Teachers who received the materials used them mainly

a) for self-instruction;
b) to check their own teaching against the objectives listed;
c) for student assessment, mainly and against the aims of the project for strictly prognostic purposes.

Some textbooks were newly written or rewritten with the Lehrzielbank in mind; in some subjects the need for improved textbooks was brought into sharper focus and may be expected to be produced in the not too distant future. Also some syllabuses were revised in form (improved logical structure, weeding out of redundancies, dropping of much of the subject matter of one subject and integration of the remainder into another subject). One teacher's working party produced a small number of test items in their own time as a first instalment of an item pool and distributed them with the help of a Teacher Centre.

## Finance

Expenditure for the project can only be roughly estimated, since most of the funds required are for the salaries of other teachers taking over half the classes of the project teachers. As teachers are paid according to their seniority and since there is no record of which classes the project teachers would have taught if they had a full teaching load, the best that can be done is to base estimates on average salaries. The annual expenditure of Ministry of Education funds on the project is approximately AUS (Austrian schillings) 5 million, i.e., AUS 500,000 per subject, there being ten project groups. Approximately 80 per cent of the total is in the form of teachers' salaries as described above. With only three project groups operative in the first year, the total cost so far is of the order of AUS 20 million at current values. Recurring cost is insignificant, perhaps 1 per cent of the total; it comes mainly under the heading of reprints, with a substantial share of this 1 per cent now being borne by private sponsors.

Under Austrian law course materials cannot be sold, nor can money be recovered on them in any other way.

The average amount of cost for the four volumes of materials a teacher of a typical subject would receive is of the order of AUS 2,000. If this were extrapolated to a situation where materials were available for all subjects, it would very roughly amount to AUS 400 per pupil. Deviations from the average(1) for individual

1) Total cost per subject.

subjects are rather insignificant, since most of the cost is independent of the number of recipients.

Project, December 1975

The present state of the project teams and the materials published so far are listed below. One volume covers a year's school work (two years' work in English). The two volumes of electronic data processing for industrial schools cover the same year but use different programming languages.

a) Mathematics for industrial schools: 4 years, 4 volumes published, disbanded.
b) Mathematics for commercial schools: 4 years, 4 volumes published, 1 year to go.
c) Mathematics for domestic science schools: 4 years, 4 volumes published, disbanded.
d) Electronic data processing for industrial schools: 2 years, 2 volumes published, disbanded.
e) Data processing for commercial schools: 1 year, half a volume published, 1 year to go.
f) Mechanical workshop for industrial schools: 3 years, 3 volumes published, 1 year to go, with subsequent partial restaffing and conversion into a project team for electrical workshop.
g) Accounting for commercial schools: 3 years, 3 volumes published, 2 years to go.
h) Commercial arithmetic for commercial schools: 3 years, 3 volumes published, 1 year to go.
i) English for industrial schools: 2 years, 1 volume, 2 years to go.
j) English for commercial schools: 2 years, 1 volume, 2 years to go.
k) English for domestic science schools: 2 years, 1 volume, 2 years to go.
l) Physics for industrial schools: work started, 4 years to go.
m) Mechanical technology for industrial schools: work started, 4 years to go.

The materials produced by groups (g) and (h) were also distributed to teachers of these subjects at the industrial and at the domestic science schools, as well as to some teachers at the part-time vocational schools, with a subset of the materials as selected by the teachers themselves applicable to the non-commercial syllabuses.

The number of copies printed varies between 200 and 1,500 depending on the number of teachers of the subject in question.

## 3. FRAME FACTORS INFLUENCING THE LEHRZIELBANK PROJECT

### Legal and administrative constraints

Austria has a centralised educational system. In curricular matters practically all power is vested in the federal authorities. From the point of view of school-based curriculum development this is both an advantage (because central authorities can lend maximum support) and a disadvantage (because activities at the lower levels are discouraged by the system). So far the project has not suffered much from the disadvantage, because the project groups were not constituted at the level of the individual school. Some difficulties arose when materials produced deviated from the syllabus (the project groups were within their rights in producing such deviations); brash teachers would use them in the (justified) hope that inspectors would tolerate the deviation because it was well founded, while shy teachers would wait until the next official revision of the syllabus (typical intervals: 2 to 5 years).

School laws affecting curricular principles can only be changed by a two-thirds majority in Parliament. This is a major factor restraining sweeping changes in school organisation. The Lehrzielbank project, however, is more concerned with changes at the syllabus level, where revisions are less difficult to undertake. The basic short-term intentions are improved justification of the content structure of the syllabus and the formulation of the general aims of each subject as close to the language of behavioural objectives as the law would allow, maintaining however the complex and general character of such prescriptions. A long-term goal of the project is to extend this orientation also to the formulation of subject-matter content. For this purpose a public awareness of the pros and cons of such a change in syllabus set-up has yet to be built up. There are no intentions to replace the present syllabus content with lists of specified atomistic objectives.

Technical education in Austria is under less pressure to reform than general education, partly because it is considered to be achieving its declared aims and partly because it is so complex that would-be reformers from outside tend to lose their bearings. This means on the one hand that a strategy of small steps as envisaged by the project appears acceptable and project groups are not under extreme pressure for immediate results, while on the other hand a lack of public interest tends to manifest itself in a shortage of funds and personnel. Such a situation enforces a slow and steady course of action, favouring the selection of only a few of the theoretically desirable activities with emphasis on the least costly ones.

A centralised educational system based on a strict hierarchy of laws and a strict hierarchy of officials (including teachers) tends

to generate administrative friction. Every innovation is a disturbance of an administrative system that is best equipped to deal with the status quo; in an age of increasing democratisation the system breeds tension between teachers and the administration; inter-departmental rivalries must not be underestimated (within the Federal Ministry of Education and Arts, the department in charge of the project enjoys only an advisory role to the departments responsible for the syllabuses of the different types of schools; teacher training is partly managed by a different division of that ministry and partly by another ministry, which is also responsible for research); and even seemingly simple matters of communication (e.g. obtaining a list of all teachers in a given subject) may become problems owing to understaffing and poor organisation. Since an all-out attack on the system or even only a partial dissolution of hierarchical structures would be an attack on the Austrian constitution, a more modest strategy has had to be employed, based mainly on intensified communication between the parties concerned. Unfortunately this strategy is strongly dependent on individuals; any change in the holder of a key position may throw the project back to a considerable extent. To overcome communication difficulties, it has proved effective to keep several communication channels open in parallel (official hierarchical channels, direct correspondence between the central administration and individual teachers, personal contacts between administrators and teachers at seminars, meetings of teachers' working parties, etc.).

Factors lending stability to the educational status quo

The "pressure of the syllabus" exerted by an excess of subject matter has had several causes. Society at large and individual pressure groups have added considerable amounts of "knowledge" to the syllabus, but very little progress has been made in weeding out material that may have become irrelevant. In technical education, technical progress also keeps adding subject matter, while any reduction would run the risk of losing some of the professional privileges of graduates as determined by outside authorities. Finally, teachers are afraid that their subjects might be assigned a higher teaching load factor (there are at present six groups of subjects with relative teaching loads ranging from 1 to 1,56) if subject matter were reduced. While relieving the "pressure of the syllabus" is one of the aims of the project (the hypothesis being that specification of objectives will facilitate the discussion of relevance), this pressure stands in the way of other aims of the project: e.g. purely diagnostic testing will not be accepted if teachers feel they need all their teaching time for lecturing and assessment in order to comply with the syllabus). At the present state of the project

(materials completed for only two subjects at one type of school and one subject at another), its real effect in this respect cannot as yet be assessed. Even so, some subject matter has been weeded out by project groups against predictions that groups composed of teachers would never manage to do so, and these revisions are slowly finding their way into syllabuses and textbooks. More palpable reductions may be expected when the subject matter of related disciplines (e.g. physics, mechanics, mechanical technology) can be checked for duplications.

Teachers tend to see themselves principally as lecturers and examiners, their professional status being mainly determined by knowledge in their fields. They are frequently averse to sharing materials they have developed for their courses with their colleagues. The public image of teachers tends to be one of an overpaid, underworked profession caring little about the development of any but their brightest students. Even so, there is a considerable shortage of teachers, especially in technical education and in rural areas, possibly owing to a disinclination on the part of many Austrians to engage in occupations involving personal service to groups of people (there being a similar situation in the field of nursing). Teachers as a rule are convinced that students will learn only under pressure and that politicians and administrators keep lowering academic levels for transparent demagogic reasons.

It has become a truism that teachers must be made aware of their changing role, but strategies towards this aim are hard to come by. A fair share of teachers must have decided to enter the profession by the following process: having observed many teachers, their methods, and their conception of their own role, they believe they know what it takes to be a teacher and will decide to become teachers themselves if they feel they can identify with this role. Thus those teachers who are by inclination best suited to perpetuate the teacher's role of a generation ago are funnelled into the teaching profession. On the other hand it has been a general experience that teachers involved in the work of project groups palpably changed their attitude towards teaching even during the first year. The conclusion seems justified that involvement in curriculum development is favourable to a desired change in teacher attitudes. One strategy might be to relieve teachers of one or two classroom periods per week, to be made up for by participation in development work; but even this scheme, if generalised, would require far more funds than the public is as yet ready to spend on improved teaching.

Austrian teachers find little direct incentive for excellence in their work; promotion into higher salary grades is automatic for practically all teachers; appointments of heads and inspectors are made by political bodies. Teachers of academic subjects have a

typical teaching load of 17 to 19 fifty-minute periods per week and are allowed to hold second jobs. The latter is particularly common in technical education, where it is encouraged as a means for the teacher to keep abreast of developments in his field; it means, however, that both the interest and the time that a teacher might invest in improving his instruction are thereby reduced. As a consequence, any strategy of curricular reform is well advised to offer many options, to supply aids that will make the teacher's job easier, and to avoid coercion at all costs.

The role of the inspectorate

Wherever a school inspectorate exists, it finds itself cast in the dual role of adviser and supervisor, which inevitably leads to a credibility gap for the advisory function. Unfortunately a splitting of the functions is hardly a way out; in cases of disagreement between inspector and adviser, teachers will tend to obey the person who wields the power, and the adviser will find himself in an uncomfortable position. In Austria, few teachers are appointed to the inspectorate before they are fifty years old; thus for mere reasons of age they cannot be expected to be a very innovative group. In addition, there is a lot of understaffing in this field as well, so that inspectors are frequently tied down with administrative work and certain formal inspections required by law. In this situation, it was deemed expedient to ensure the inspectorate's acceptance of the project at the start but to bypass it in much of the routine project work. This has proved a mistake; the least that should have been done was regular detailed information of the inspectors on project aims and project status. Unfortunately the only occasion for such information seems to be the quarterly inspectors' conference under the auspices of the Ministry, where the agenda is so voluminous that detailed discussion would try the patience of all concerned. Written information, on the other hand, has not proved very successful as a form of briefing people not involved in curriculum development.

The role of researchers

Educational research in Austria has long had a tradition of being of a very theoretical, near-philosophical approach that is hard to apply to classroom practice. With the need for formative evaluation of comprehensive-school pilot projects in general education, researchers were found who were willing and able to supply the required theoretical models and statistical techniques. There is still a bottleneck, however, as far as actual involvement of researchers in curriculum development projects is concerned.

particularly in technical education with its complex structure and educational content that few if any researchers have any experience with. Thus the number of qualified researchers who could work as project-group advisers is severely limited and expected to remain so for a considerable time; thus it has been found necessary to use members of former project teams who have shown some aptitude in this field as assistant researchers and group advisers. Overwork on the practical aspects of the project has left a certain deficit in its theoretical foundations, but this drawback is about to be remedied.

The role of teacher training

Teacher training, being closely related to research, has suffered from similar manpower and theory-versus-practice problems. Curriculum development seems destined to be ranked with a number of other teaching activities that a teacher learns best by doing. Traditionally it has been one of the functions of further teacher training with its more practical orientation to make up some of the deficit of initial teacher training. But further teacher training also operates under a number of constraints: limited funds, limited staff, a legal situation where further training as a concept is every teacher's duty but where every concrete item of further teacher training is optional and involves extra payment both to the teacher involved and for the colleague substituting for him, a situation further exacerbated by inspectors and heads who would rather have their teachers teaching than being taught. It is more than a coincidence that in two of the nine Austrian provinces former members of Lehrzielbank teams have been appointed heads of the provincial teachers' centres of further education, so that at least in these populous provinces a good multiplication effect seems assured. The strategy that tends to come up against the fewest obstacles consists of a comparatively large number of short (down to half a day) regional seminars, occasionally even at the level of the individual school if there are enough teachers of the subject(s) concerned, because they produce the least nuisance effect on the system. For projects involving general secondary schools, some of the above would not apply because there are no provincial teachers' centres of further education for these schools; setting up such institutions would require a change in school law and considerable funds.

Structural problems of the project

One of the major constraints suffered by the project is the fact that it has no full-time staff. People involved in it are as a rule highly qualified in their respective occupations and thus tend to be burdened with other duties, so they cannot devote themselves as fully

to the work as they might wish. Another effect is that it might take not one but two average people to replace a qualified and motivated project member, so that when replacement becomes necessary it becomes a major strain on the project. Legal restrictions make it impossible to compensate project members at a level comparable to other occupations requiring as much time; recruitment of project members has therefore remained a problem, which is exacerbated by the restriction that project teams can only meet in Vienna (since project members frequently encounter administrative difficulties of one type or another which can only be smoothed out if a member of the central administration is regularly present at project-group meetings), thus excluding some otherwise willing and qualified teachers and researchers. It is hoped, though, that the project has by now gathered so much momentum that it will not be set back very badly by individual members' retiring or resigning. Expectations of obtaining full-time staff for it are, however, still dim for the near future, with the project being caught in the squeeze of the education explosion, inflation, and budget deficits.

Funding of the project has been difficult from the start (projects answering a clearly felt and widespread public need for reform might be better off in this respect). Funds allocated in the federal budget have tended to remain nominally the same from one year to another, resulting in net cuts owing to inflation. It has therefore been necessary to find private sponsors (mainly banks) to share the cost of producing materials. It would not be acceptable, however, to have staff paid by sponsors, and this being by far the lion's share of total expenses, prospects for an expansion of the project in any way that would involve extra staff do not appear rosy.

Evaluation problem

Curriculum development work needs improvement by evaluation. Formal evaluation by traditional methods (used, for example, in assessing the comprehensive-school pilot projects) has run up against a number of snags (too many variables, conflicting interpretations of the same data) that have tended to discredit it somewhat.

Since in technical education the number of influencing factors is even larger, pragmatic evaluation has been resorted to: teachers, employers, university professors of the disciplines concerned, as well as some other groups were asked their opinion of the products, partly through questionnaires, partly in the form of a written request for comment, partly in seminar discussions. While the responses were predominantly favourable, the expectation that discussions of relevance would be sparked off has not yet been fulfilled. It seems that the teachers (who were the only group contacted personally) are not particularly prone to question the relevance of what they have been

teaching for years, while the other groups would probably need to be contacted personally (written responses from these groups were few and limited to a small number of matters of detail). Improved interaction with employers, professors, etc. remains an important aim but will require more staff, more funds and, especially, new strategies to examine the materials for their social, academic, and vocational relevance.

## 4. APPRAISAL OF THE LEHRZIELBANK PROJECT AT THE BAD HOFGASTEIN SEMINAR

### Background

After four years of project operation, the Austrian Federal Ministry of Education and Arts in co-operation with OECD/CERI organised a seminar at Bad Hofgestein whose purpose was an analysis and appraisal of the Lehrzielbank project, particularly in relation to the concept of school-based curriculum development.

The seminar was held in October 1975. Of the 36 participants (researchers, including OECD experts, from Austria, the Federal Republic of Germany, Switzerland and the United Kingdom; Austrian teachers, headmasters, inspectors and administrators) 15 had been previously involved in the project. Most of the work was done in three working groups, all of which dealt with the same problems.

This chapter summarises the findings of the seminar that apply to the project at its current state and to its eventual extension to other subjects. Recommendations concerning further activities on the basis of the project will be dealt with in the following chapter.

The Lehrzielbank project might be seen not as a form of curriculum development in itself but rather as a piece of basic research that might lead to curriculum development properly speaking. Its main frame factors were a lack of innovative pressure in the Austrian technical school system and a lack of information on what is actually going on in the classrooms, factors that are to a high degree interdependent. The premise was that a specification of system objectives would lead to some degree of pressure for reform; the partial results observable at this stage of the project seem to justify this expectation.

The project is teacher-based with central teams composed of teachers from different schools. However, it leaves room and in a sense paves the way for school-based follow-up activities. In this sense it may be closer to the concept of school-based curriculum development than the RDD strategies used to investigate the possibilities of comprehensive general education in Austria. (The materials developed by teacher-based project groups for pilot comprehensive schools - age group 10 to 14 - are sets of comparatively

teacher-proof materials leaving little room for school-based activities or for communication between schools.)

The remainder of this chapter is devoted to a summary of the discussion of the philosophy of the project.

## The project and syllabus development

There is a conflict between two major functions of the project. On the one hand, the materials should provide basic data for syllabus changes. For this purpose any close adherence to the current syllabus is detrimental. On the other hand, the materials should be a legitimate specification of objectives to support the teacher. For this purpose, adherence to the syllabus is important. This conflict was resolved in most cases by a compromise, deviating from the syllabus only in cases that were deemed well justified by all members of the respective project group.

The influence of the project groups on syllabus reform has ranged from very large to very small depending on the subject concerned. The highest degree of influence could be exerted by those groups whose catalogues had been finished for all grades; in the case of some other groups, the Ministry departments in charge of syllabus reform may not have realised that the expertise of project-group members, acquired in several years of development work, would have qualified them as specialists at least in the formal aspects of syllabus revision. As the project gathers momentum, this understanding seems to be growing.

## Classroom use of materials

The influence of the materials on classroom instruction is more controversial. There is a conflict between the explicit diagnostic function of the materials and their actual use for grading purposes. The term 'diagnostic' is used here in the sense of 'constituting an aid to facilitate learning', the responsibility for student difficulties still being much on the side of the teacher.

This conflict is in part the result of an unresolved conflict between two teacher functions: facilitating learning on the one hand, and assessing performance for grading and selection on the other. At present the conflict, though perceived, seems to be resolved in favour of grading. As a result, sample problems have to some extent been abused for subjecting students to increased examination pressure. These abuses were also triggered off by the provision of informal tests (hitherto prohibited and still undefined) in the School Instruction Act of 1974. Of course, if problems contained in the Lehrzielbank materials had not been available, chances are that other, probably less valid, examination problems would have been set, as the evidence of subjects where no catalogues of objectives exist seems to indicate.

Another conflict arises between diagnostic and sequencing purposes. Some teachers perceived the objectives and problems as an aid to splitting instruction into tiny consecutive units. Given this abuse, the materials can even have a negative impact on the classroom. Because of their avowed tendency to "atomise" objectives for clear-cut diagnosis, the materials so far produced have promptly come under attack as being too simplistic and containing even fewer complex problems than even the current type of instruction entails.

Several problems and ideas were discussed in connection with the analysis of these conflicts. One reason for the difficulties seems to lie in the reticence on the materials as to teaching methods and teaching materials. Only one project group so far envisages an appendix to its catalogue of objectives in which experiments aiding in the attainment of objectives are to be described. Another reason seems to lie in the design of teacher seminars accompanying dissemination. They are limited to information on the materials and on item construction. So far the participating teachers have had no opportunity to design instructional situations in accordance with the philosophy of the project.

No serious R&D work has so far been undertaken to assess the minimum classroom time for each group of objectives. It may well be therefore that the catalogues have increased teachers' perception of subject-matter pressure. Such a side effect might reinforce teachers' traditional emphasis on subject-matter presentation and grading. One proposal was that the catalogues of objectives should be further trimmed down to the barest essentials, thus covering only 75 per cent of classroom time, while the rest might be left free for diagnostic testing, complex problem-solving, such as project work etc. (as in a Swiss model). This proposal would have to cope with two difficulties: for one thing, most project groups consider the materials they have produced to have been stripped down already to the barest essentials compatible with maintaining the professional privilege of graduates, while still requiring practically all the allotted instruction time; for another, politicians and administrators might take any teaching time not absolutely necessary away from their subjects. Nonetheless, the idea should be examined more closely, especially with regard to basic revisions in syllabus structure.

A more radical proposal to alleviate the conflict between intended and actual functions of the project came from the argument that teachers seem most ready to see themselves as helpers if they have to prepare students for assessment by third persons, witness e.g. the experience of teachers who have given remedial instruction. Better motivation of teachers for the aims implicit in the project might therefore be achieved if every teacher were to engage in some remedial instruction in a subject otherwise taught and marked by

his colleagues. Ultimately something like the British system, with marks on final examinations not given by the student's teachers, might be envisaged.

The strategy of assigning the roles of helper and examiner to two different people must be seen as an attempt to resolve a basic incompatibility that is felt throughout the teaching profession. Unfortunately, however, the result of such a division (also in the inspectorate) is frequently that the helper loses status vis-à-vis the wielder of power. From this point of view, the strategy whereby every teacher is main instructor and examiner for a subject in one class and remedial helper in another class and/or subject seems preferable to having an entirely separate examining body. This, however, would mean a sharp increase in the amount of remedial instruction currently given, an increase that would have to be financed and also defended against those who insist that students have too many classroom periods as it is.

A separate examining body, on the other hand, even if it consisted of teachers from other schools, would mean a total change of a century-old system; in a country with many tightly interlocking regulations governing school life, such a step would entail so many secondary changes that a two-thirds majority in Parliament could only be found for it if the evidence were overwhelmingly in its favour. Such does not seem to be the case, however; at least the system of outside examiners is criticised both in Britain and in France on the grounds of poor efficiency (some efforts on the part of the teacher may not coincide with the examiner's intentions), excessively difficult examinations (unconscious attempts by examiners to show how superior they are to the classroom teachers?) and frustrated students (who fail examinations through no fault of their own but because of poor teaching).

## Evaluation and justification

A different line of reasoning at the Bad Hofgastein seminar concerned itself with problems of evaluation and justification. This proved to be a rather difficult area because of the different - in part contradictory - functions of the project and because justification for the individual teacher has some implications very different from justification in the eyes of the Ministry or the research advisers or the project groups. The classes of criteria (academic, social, economic, educational,etc.) are to some extent quite different for the groups concerned. So far evaluative activities (questionnaires, seminars) were mainly concerned with academic and to some extent with educational criteria. It was proposed to have the criteria for justification of the materials explicitly stated therein in order to facilitate evaluation by teachers.

The proposal was discussed to itensify evaluative activities at the schools in order to investigate the actual consequences of the materials for classroom instruction. This seemed to be a means to confirming or disproving the suspicion of some participants that the materials would tend to solidify the status quo in instruction. It would also provide impulses counterbalancing the objective-centredness of the project by stressing complementary factors in the further education of teachers.

Simultaneously the attempt could be made to embed the project in the mainstream of curriculum theory. The present theory gap is in part the result of the isolated objectives approach of the project. Filling this gap would not only get more researchers interested in the project but would also be a stabilising influence tending to render the project more immune to changes in its senior staff.

It must not be overlooked, however, that any extension of the activities of existing project groups is likely to be costly in manpower, funds and time. Unless permission to use more teachers for additional project groups can be obtained, the production of the catalogues of objectives would tend to take longer if further activities had to be engaged in; but then, the speed of development is already unsatisfactory as it is if all subjects of technical education are to be ultimately covered, which the responsible Ministry departments insist on for reasons of syllabus reform. This state of affairs enforces great care in the selection of additional or modified activities.

The rights of teachers

Some thought was also given to the degree in which teachers are free to use or ignore the materials. As a matter of fact, there is no formal compulsion to use the materials. They are declared as a free offer to teachers. On the other hand there is the danger that users, who cannot spend as much time on curricular problems as members of project groups, simply accept the catalogues by default. A related danger, viz. that in a centralised state some teachers would consider publications bearing the imprint of a Federal Ministry as compulsory notwithstanding official statements to the contrary, might actually be reinforced by the school inspectorate.

In this respect a participation gap was identified. Project management has been strictly in the hands of the Ministry and - to a lesser extent - of the Research Director. The influence of other people has been far from negligible but mainly informal. The formation of a steering committee incorporating members of project groups, research advisers, headmasters, inspectors, and possibly recipient teachers, has been suggested. Such a committee would not be supple enough to arrive at the many short-term decisions required

in the management of the project. It would, however, be an instrument to discuss, justify and carry out strategic decisions, e.g. with regard to the degree of freedom given to teachers or with regard to necessary evaluative and educational follow-up activities. In particular, the flow of information could be improved by such a committee. So far, the school system at large has not received as much or as frequent information about the project as would seem desirable. Subject teachers received the materials and - with some exceptions - attended seminars. Heads received materials only if they happened to be subject teachers as well, and neither they nor the inspectors were usually in attendance at the seminars. A journal in which some articles about the project were published did not reach many teachers (very few teachers in the system subscribing to any pedagogical journal). This information gap has been felt by the project management, but a solution feasible in terms of funds and manpower is not seen as yet.

A related difficulty is the concentration of the project in Vienna, thus excluding the participation of teachers from the remoter provinces (Salzburg, Tyrol, Vorarlberg, Carinthia). With the project at its current status, no redress seems possible; while research advisers for decentralised project groups could presumably be found, the Ministry's administrative advisers cannot attend group meetings regularly unless they are held in Vienna. Owing to various administrative difficulties involving, among other things, the use of premises and apparatus, the purchase of literature, delayed payments for project work and preparation of materials for printing, at least half the members of existing project groups would have resigned if administrative advisers had not been on the spot to take appropriate action.

## 5. PROPOSED FOLLOW-UP ACTIVITIES

### Introduction

At the Bad Hofgastein seminar a number of areas and concrete initiatives were suggested to which the Lehrzielbank project might be extended. They will be listed in the following sections of this Chapter in tentative order of attainability.

Attainability is judged by three criteria:

a) financial: activities that can be subsumed under the present budgetary framework (including funds for the further education of teachers) are given priority;
b) organisational: activities that can be integrated into the present social structure of the school are given priority;
c) motivational: activities for which broad teacher interest already exists are given priority.

In view of these criteria, a step-by-step approach is called for, with slow increases of innovative stance.

Qualitative and quantitative improvement of teacher information

In addition to routine information on the materials, the general aim should be to promote teacher consciousness and practice in the use of the materials according to the philosophy of the project. Teachers should obtain

a) a sophisticated view of the pros and cons of the uses of objectives in instruction and of procedures to justify objectives;
b) practice in course planning, using the project materials.

This should be accomplished by short seminars at the provincial Teacher Centres of further education or at individual schools.

Another initiative concerns a periodical which might be set up by the Federal Ministry of Education and Arts; its purpose would be to encourage school-based development and to exchange information on all matters that might help in improving classroom instruction. In order to be effective, such a publication would have to meet the following requirements:

a) free distribution to every teacher;
b) payment to teachers for at least some of their contributions;
c) issues to appear frequently, whenever sufficient material (instructional units) has collected.

School-based development and evaluation of diagnostic items and complex problems

A system of teacher-training seminars should be followed by development activities by individual teachers and groups of teachers at their schools. The development should aim at instructional designs incorporating diagnostic procedures as well as complex problems referring to several objectives. In this framework, instructional designs should be encouraged that promote independent and co-operative problem-solving, the use of diverse information sources inside and outside the school, and the application of academic knowledge in socially significant situations. Project groups would run the seminars and serve as advisers to teachers and editors thereafter. Payment for contributions would be split between the original author and the editor according to their respective shares in the finished product. This strategy seems particularly well suited for complementing the periodical envisaged in the preceding section, inasmuch as at least in the initial phase personal contact rather than printed materials would be the medium of transfer. In addition, school-based development would have an institutional framework and an external

support structure. The difficulties are primarily financial, necessitating restriction to few subjects and comparatively few teachers (schools) per subject. In addition, seminars of the kind needed would to some extent run the risks of every bootstrap operation, inasmuch as project-team members in charge of these seminars would have to put across concepts and convictions fairly new to themselves. On the other hand, this is a fairly common condition for action-type research,and has its merits.

Pilot project 'Autonomous Work by Students'

A further proposal was to institute a pilot project at a suitable school, developing a new syllabus for at least one class with classroom time in cognitive subjects reduced by, say, 60 per cent and a proportional reduction in class size (splitting into groups), so that teachers' teaching loads would remain unchanged. Students would be expected to spend the time gained on individualised complex project work, making use of information both inside and outside the school. Remaining classroom time would mainly be used for tutoring sessions and to check progress.

Such a project is particularly prone to being plagued by constraints. It would require almost as much preparatory work as an innovative curriculum for the whole school system, even though - at least initially - only a single school would be involved. A failure of the project could also mean a major setback to educational innovation throughout the country.

For the pilot project, willing and able teachers of all subjects would have to be found at a single school, a consideration that seems to favour the selection of a fairly large institution. As the project might take unexpected turns, it will require intensive inter-subject communication within the school and a strong outside support structure providing administrative assistance and expert advice.

Coming fairly late in a student's school career if the project were implemented in technical education, it might expose students accustomed to traditional instruction to a kind of culture shock. Difficulties in adapting to the new freedom and to the new intensity of learning experience would lead to failures and to negative reactions on the part of students and parents.

The pilot project would also require a certain minimum amount of infrastructure within the school (teaching aids, library etc.) that would be likely to be found rather in a large city school than in a small rural institution. This factor again limits the selection of an institution for the purpose.

Finally, even if the project were an unqualified success, the problem of transfer to the system at large would still be considerable. In schools where there are not enough motivated teachers or where the required infrastructure is lacking, the experimental syllabus might not prove feasible.

With so many risks involved, does this strategy look promising at all? Its lure is that, if it could be made to work, a much larger step in innovation could be taken than any of the previous strategies envisage; classroom reality across the entire system might find itself palpably transformed within less than a decade. Still, traditionally security-minded Austrians might balk at the risks involved.

## 6. CONCLUSIONS

In Austria, as elsewhere, curriculum development has been characterised by attempts to bring about major changes in attitudes with limited resources of manpower and funds. In such situations, maximum efficiency - i.e. maximum effects achieved with a minimum of input - has generally been striven for. In centralised school systems, the power of the central authority has frequently been seen as a powerful instrument to bring about major changes in the classroom through research, development, and edict. However, numerous cases are on record in different countries where such an approach has failed owing to the complexity of the system it was intended to handle.

With some such failures in mind, the Austrian Lehrzielbank project was set up according to the following principles:

a) Teachers must play the dominant role in curriculum development; both researchers and administrators should function only as advisers.

b) Whatever the output of the project, it must remain each teacher's option to accept or reject it.

c) No quantum jumps in innovation but only small steps must be envisaged. This may originally have been making a virtue out of necessity but it has proved sound strategy; psychologically, a small step seems acceptable because it promises improvement without threatening the whole system or necessitating major feats of systems engineering, and in practical operation each small step has so many side-effects, some of them unforeseen, that one has one's hands full steering the project through changing frame factors.

The first of these principles was, of course, the decisive step towards school-based curriculum development. A further step whereby the individual school becomes the major carrier of development work is probably not fully transferable from the Anglo-Saxon context into continental European school systems (see sections above). But if school-based activities are complemented with activities of individual teachers and of working parties of subject teachers from different schools, all with the support of centrally established project

teams, the beneficial effects of such a form of integration would be at least comparable to those of a fully school-based system. The follow-up activities listed in section 5 look particularly promising in this respect.

The basic restraint operating on any proposed follow-up activities to the Lehrzielbank project is a syndrome of teacher attitudes outlined in Chapter 3, with increasing resistance to be expected as reforms would tend to pass increasing numbers of hitherto failing students. Consciously or unconsciously, a desire to limit membership in the intellectual élite may also be playing a role.

The optional nature of the materials has been a major factor in assuring acceptance of the project. While it is true that these materials can and will be used for the construction of improved syllabuses, teachers will not mind as long as the new syllabus is not essentially more detailed than its predecessor, and indeed there is no intention to make the syllabus more detailed - only to make it clearer, more logical, easier to transform into classroom practice.

The policy of small steps and quick reaction to changing frame factors makes a project less than satisfactory from the point of view of educational theory. Papers attempting to anchor such a project in the mainstream of curriculum development may run the risk of being superseded by the turn of events; there might even be a loss of flexibility if the project management went on record with certain theoretical principles that subsequently turn out to stand in the way of desirable adjustments. The stabilising effect imparted to a project by a firm theoretical foundation must therefore be taken over by another feature, viz. the integration of several strategies towards the same ends, so that disturbing influences will only necessitate some adjustments at the fringe of the project or at most abandoning one or two of many project aims for the time being, while concentrating on others.

Many if not all of the activities envisaged would ultimately entail intensified efforts and/or longer preparation times for teachers. Since they cannot be expected to contribute this extra work out of sheer idealism, while salary increases for teachers with respect to other groups of civil servants are out of the question for reasons of public opinion and financial policy, compensation must be found by developing materials that will free the teacher of some of his traditional work (e.g. item pools).

To sum up, school-based curriculum development under a centralised school system does seem possible, provided the term 'school-based' is not interpreted too strictly and that the complexities of the system are taken into account by setting up a reasonably complex yet supple subsystem for curriculum development. The advisability of a "slow but sure" strategy is probably not limited to centralised systems.

## APPENDIX A

A sample page from a Lehrzielbank catalogue of objectives
(Mathematics and applied mathematics
for industrial schools, first year)

No. 12.110

Topic: Surface areas and volumes

Subtopic: Computations on a circle

Objective: To be able to perform computations on a circular sector

Level: II

Problems:

1. Compute the area of a circular sector of radius $r = 6$ cm and of central angle $\alpha = 52°$.
2. Compute the central angle of a circular sector of area $A = 427\ cm^2$ and of radius $r = 14.3$ cm.

Solutions:

1. $A = 163.3\ cm^2$
2. $\alpha = 239°$

## APPENDIX B

Questionnaire sent to mathematics teachers in technical schools one year after they had received the first Lehrzielbank materials.

The questionnaire was to be returned anonymously; later questionnaires for other subjects were essentially identical.

1. I teach mathematics at a
   - secondary industrial school
   - secondary commercial school
   - secondary domestic science school

2. My teaching experience at technical schools is
   - less than a year
   - 1 to 5 years
   - 6 to 15 years
   - 16 to 25 years
   - more than 25 years

3. I have attended an introductory seminar on using the Lehrzielbank (November 1972)
   - yes
   - no

4. (Leave this point unanswered if you have not taught first-year mathematics in the current school year of 1972/73)
   I have used this publication
   - frequently
   - sometimes
   - rarely
   - never

   for planning my courses or for similar purposes

5. I consider this publication
   - very useful
   - useful
   - less than useful
   - useless

6. I should be interested in being sent, free of charge, a collection of test items for individual teaching objectives (a collection yet to be developed)
   - yes
   - no

## VI. SCHOOL-BASED CURRICULUM DEVELOPMENT IN HESSE, GERMANY

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## 1. INTRODUCTION: SOME OBSERVATIONS ON SCHOOL REFORM IN HESSE

This report is concerned with the concepts, experiences and perspectives of Hesse's experimental model for teacher training and school based curriculum development. This is not the only instance in the field of school-based activities in the State of Hesse,(1) but it is the only one the report will discuss in detail. Before this, however, some historical and statistical information must be offered if the reader is properly to appreciate what is involved in the organisation of SBCD in one area of the Federal Republic of Germany.

Between 1948 and 1970 the state of Hesse - about which a few statistical data are given in Table 1 - was governed by the Social-Democratic Party (SPD), and since 1970 there has been a coalition of the Social Democrats and the Liberals (FDP). For some decades the state has had a just claim to be one of the most progressive areas in the Federal Republic as far as education policy is concerned. We can cite, for instance, that:

- At a relatively very early moment, all religious schools were abolished, and the state schools were no longer divided according to religious denominations. Within a few years they were made co-educational.
- Reform of the rural schools also was put into effect in the mid-1950s, the one- or two-class village schools being dissolved in favour of primary schools organised along age lines, and predominantly more flexible in approach. At the same time secondary level centres were built (to serve the needs of a number of rural areas, with a primary junior school, a secondary modern school and a grammar-type school). The process went hand in hand with regional reforms designed to transfer power from small separate communities to the larger administrative units.
- Currently some 50 per cent of the age cohort for classes 5 and 6 are attending orientation classes common to all school types, and an increase to the full 100 per cent is planned over the next three years.

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1) See, for instance, the K.O.R.A.G. project (pilot study to define objectives in comprehensives), as described in P. Bonn, (1974); "Lehrerfortbildung und Basiocurriculare Arbeit", in Gesamtschulinformationen,1/1974, p. 59 ff.

. In 1974/75, 117 of Hesse's public schools were working together in a large-scale experimental project, 64 of them integrated comprehensives, and 53 comprehensives organised along traditional lines.(1)

Table 1

SOME DATA ON THE STATE OF HESSE, GERMANY

| | |
|---|---|
| Surface area: | 21,112 sq. km. |
| Population (1.1.1975): | 5,576,081 |
| Population density (1.1.1975): | 264 per sq. km. |
| Average tax revenue (per inhabitant, 1974): | 4,023.- DM |
| Cultural expenditure as % of GNP (1974): | 4.4 |
| Cultural spending per head of population (1974): | 717,- DM |

An assessment of how far measures towards school reform have been put into effect must take two factors into account:

i) The cultural independence of the Länder (separate states) in the Federal Republic of Germany, with a simultaneous urge for co-ordination, which prevents over-ambitious special developments (Permanent Conference of the Ministers of Education; Outlines of federal legislation; Federal and Regional Commissions for Joint Educational Planning).

ii) The extent to which decision-makers in educational policy can have their decisions put into practice in the regional administrative units of Hesse (e.g., districts controlled by the CDU (Christian Democratic Party) while the state-level council is controlled by the SPD).

Thus the legal requirement to secure agreement from the various regional political units (county councils, rural district councils, town councils) has considerable influence on the setting up of common orientation classes and integrated comprehensives, and exercises constraints on the pace of development in organisational school reform.

1) According to the regional coalition government's agreements, no more integrated comprehensive schools will be started in Hesse during the 1974-78 legislative period.

The measures taken towards structural school reform in Hesse in the 1960s were instrumental also in bringing about a massive curriculum reform(1) to meet the following demands:(2)

- The teaching approach should be based on age-level, and should replace the traditional approach which varied according to school type.
- Curricular outlines should be adopted as a central priority for teaching in schools, and lead to continuous school-based curriculum development. Thus the centrally developed teaching approach would define, among other items, a pattern of activity for school-based development work.
- The simultaneous development of such a framework of objectives for all school levels (primary level, secondary level and sixth form level) should guarantee a co-ordination of teaching objectives, content and method to allow maximum transferability within the entire school system.
- The content of the new teaching approach should be aimed at the elimination of pockets of the educationally underprivileged, and should push towards equality of opportunity.

These politically democratic arguments for school reform must be seen in the light of the awareness that prevailed at the end of the 1960s on the relationship between economic growth and educational systems. It was taken for granted that the strength of the German economy would urgently demand a continuously growing number of better-qualified, and differently-qualified, workers, and particularly a large increase in the numbers of qualified secondary school-leavers and university graduates. From all this it should be clear why the concepts "equality of opportunity" and "the exhausting of the reserve of talent" are being used as synonyms.

In September 1972, at the beginning of the 1972/73 academic year, the curricular outlines for primary level and secondary level

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1) P. Bonn: Konkretisierung der Rahmenrichtlinien an Gesamtschulen - Bericht über einen Modellversuch in Hessen; in K. Frey (ed.): Curriculum Handbuch, vol. 1, München-Zürich 1975, p. 363ff.

I. Haller, H. Wolf: Reform ohne Ende oder Ende einer Reform (Zur historischen Entwicklung der inhaltlichen Schulreform in Hessen). In: G. Köhler (Ed.) Wem soll die Schule nützen? Rahmenrichtlinien und neue Lehrpläne: Soziales Lernen im Konflikt. Frankfurt 1974, pp. 37-107.

W. Klafki, K.Ch. Lingelbach u. H.W. Nicklas (ed.): Probleme der Curriculumentwicklung. Entwürfe und Reflexionen. Frankfurt/M., Berlin, München 1972.

2) Hessischer Kultusminister (ed.): Bildungspolitische Informationen Nr. 3/72. Neue Hessische Lehrpläne (Rahmenrichtlinien). Begründung, Aufgaben, Zielperspektiven. Wiesbaden 1972.

were produced. In a recent report, the Minister of Education describes their publication as "the first step towards a continuous development of curricula objectives ... it involved the concept of a public discussion process, and was at the same time the beginning of a public debate on the content of education - a unique event in the history of schools in Hesse, and many other areas".(1)

## 2. THE CONCEPT OF MOVES IN SCHOOL-BASED CURRICULUM DEVELOPMENT AS THE BASIS FOR A CHANGE IN REGIONAL TEACHER TRAINING AS A PILOT SCHEME

The foregoing introduction illustrates three things that seem to be important:

i) Curriculum development organised by the state involves the planning of very large complexes, rather than odd isolated projects as is frequently the case.

ii) The close links between the reform of structure and the reform of content in Hessian schools perhaps helps to explain why it was in this particular state of the Federal Republic that the first - and most intense - controversy arose round the content and aims of school education. The radical structural change from a traditional three-pronged school system to integrated comprehensive schools was begun first and taken furthest in Hesse. The resistance this structural policy engendered in conservative groups could be easily sustained, as long as old-style content dictated (or at least surrounded) teaching in the new school system, and where new content was introduced into the traditional three-pronged system. Qualitative changes were clearly impossible to achieve.

Only when a new school organisation and new teaching content relevant to it are both present can a structural reform be fully effective, and at that point it must be prepared to provoke the maximum resistance in its opponents. This was the case when the new curricular outlines were discussed in Hesse in 1973/74.(2)

iii) Any state-organised planning of curriculum development that is an attempt to express political aims literally (such as trying to transfer to immediate educational reality such political buzz-words as 'equality of opportunity' or the 'right to education' can lead to dangers. It gives an easy handle to opponents, who can point out the basic contradiction between the slogans and the everyday realities of political policy; the controversy around the Hesse curricular outlines demanded from politicians a sacrifice of short-term successes

1) Kulturpolitik der Länder 1973/74, published by the Conference of the Ministers of Education, Bonn 1975, p. 129.

2) See the comprehensive bibliography selected by N. Klüsche in: G. Köhler (ed.): Wem soll die Schule nützen? Frankfurt, 1974.

for the sake of a continuous process of long-term construction. Losses in the 1974 elections were taken by the Socialist-Liberal coalition to mean that the controversy over these educational objectives had cost them votes. The outlines had to be revised in order to damp down further public debate.

The decision was taken as we have just indicated, but only after an intensive learning process on the part of the planners and a public controversy about the reform of curriculum content. They show an assessment of the conditions for the reform of curriculum content that demonstrated that passing down the curriculum development planning to the schools themselves was insufficient.

But in 1972 the planning of school-based curriculum development in Hesse concentrated mainly on the schools - particularly on their teachers. The aim was a change in the social responsibility of these professional agents of change in curriculum content. Thus school-based curriculum development was seen as <u>one</u> major aspect of the reorganisation of regional teacher training systems.(1)

The basis for the concept of the pilot scheme was the initial hypothesis that the macro-situation of a region has an enduring effect on the nature of its schools. Infrastructure, together with socio-cultural and political relationships within a region, interact variably with supra-regional factors to determine the limits of approach and development as far as schools are concerned. This finds its most visible expression in the varying levels of organisational reform and changes in teaching content in Hesse, but it is also to be seen in the general attitude of teachers, inside and outside their schools, as evidenced by their understanding of their professional role, and the way in which they practise it. This has consequences for their definition of major areas of work, work organisation, and their performance in school-based teacher training and development work. On the regional level, this showed up in:

- Special developments and segregation tendencies of a number of schools and regions even on a comparatively similar external school organisation level (for example, the orientation groups).
- The fact that the limits of approach and development within certain schools, types of school and levels of school were dependent on the general school situation specific to the region (for example, difficulties of transfer and leaving-age problems.

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1) See the planning formula laid out in: I. Haller, H. Wolf: Neuorganisation der Lehrerfortbildung als Teilstück schulnaher Curriculumentwicklung; in: <u>Curriculum Konkret</u>, Heft 1, 1973.

. Difficulties of communication between teachers of different training generations, or working in different disciplines or types and levels of school (e.g. opinions of teachers on the effectiveness of formally introduced co-ordination of educational planning within and between schools).

In the years 1972-74, regional centres were set up in four rural districts of Hesse: Gross-Gerau, Bad Hersfeld/Rotenburg, Limburg/Weilburg, Kassel-Land.

The catchment area of each centre was exactly the same as the respective regional administrative unit, and thus exactly matched the area of responsibility normal to a regional education authority. The teacher population at the time stood between 800 and 1,300, in all types of school.

Tests carried out on the original hypothesis claiming a connection between the entire regional structure and the viability of school-based curriculum development/teacher training partly dictated the choice of the experimental areas. The four experimental areas could be held as typical of Hesse, inasmuch as each presented variants of groups of factors common to the region. From the point of view of organisational school reform, they represented areas without integrated comprehensive schools (Bad Hersfeld/Rotenburg, Limburg/Weilburg), with integrated comprehensives side by side with other types of school (Gross-Gerau), and with integrated comprehensives as the only type of school in the district (Kassel). Other criteria for selection were:

Presence of a university
Population density
Transport facilities
Regional political relationships

The selection was confined to rural districts. The planned extension of the concept to include a regional centre in Frankfurt (big city, agglomeration) was abandoned for lack of funds.

Work organisation

The regional centres were given the task of organising and co-ordinating curriculum development work in each area. Each regional centre has as staff:

- 12-20 part-time members, elected by the teachers and partly released from their normal duties, and continuously changing (a total of 75 hours contribution, each putting in an average of 6 hours on secondment),
- 1 secretary,

- At least 12 working groups of teachers (90 groups in the four regional centres), with between 5 and 30 members to each group, working on a voluntary basis.(1)

The operating budget serves to provide working materials, the creation of a library, the organisation of workshop sessions, and include travel expenses for teachers and experts taking part in the activity.

EXPENSES FOR EACH REGIONAL CENTRE

| | | |
|---|---|---|
| 1 director | A 15 | (3,714 DM per month)* |
| 1 secretary | BAT VI | (1,918 DM per month)** |
| 12 x 6 hours secondment for teachers on detachment | | |
| Running expenses | | 50,000 DM |

* Statistical salary average for a high-ranking civil servant (mid-point of scale) (35, married, two children).

** Statistical salary average for an administrative official in the public service (35, married, 1 child).

A central office is responsible for administration and co-ordination of experimental work, as well as for liaison between the regional centres and central development groups (e.g. groups working on curricular outlines). It is made up of:

- 3 full-time members,
- 1 administrative official,
- 2 secretaries.

Its budget provides for:

. Materials for the regional centres,
. Documentation on experimental developments,
. Publications (e.g., the quarterly journal "Curriculum Konkret"),
. Travel and administrative expenses.

COST OF CENTRAL CO-ORDINATION OFFICE/ADMINISTRATION

| | | |
|---|---|---|
| 3 teachers | A 15 | (3,714 DM per month) |
| 1 secretary | BAT VI | (1,918 DM per month) |
| 1 administrative official | BAT V | (2,247 DM per month) |
| Running expenses | | 50,000 DM |

1) Until 1975 the working topics were mainly for primary teachers and secondary level I teachers; after Hesse's curricular outlines for the sixth form came up for discussion in the summer of 1975 teachers from this level were also brought into the operation.

A steering committee of experts has been given the task of advising on experimental studies and evaluating the results. It consists of:

4 full-time members,
2 educational experts from a Hesse university,
1 secretary.

Major working areas in content reform

Pilot schemes in training and development work generally have a threefold objective:

- To reconcile the teaching and learning process in a region with the aim of step-by-step improvement in current school practices by changes in the curricular and organisational requirements, in line with the regional particularities.
- The improvement of co-operation both within and between schools/school levels in a particular attempt to avoid divergent development of the traditional types of school and the integrated comprehensives.
- The creation of a communications and information network between separate regions to make clear the extent and limits of special regional developments, and by this means to increase the opportunities for supra-regional planning and co-ordination in school development.

In this area, the regional centres have the following tasks:

i) The creation and servicing of teacher working groups drawn from the schools on an overlapping basis to:

- develop, put to test, and prepare adaptation of teaching material and methods;
- adapt material developed elsewhere;
- co-ordinate planning between individual schools/school types and school levels.

ii) The task of qualifying those teachers on secondment to take over organisational and advisory functions for teacher working groups by:

- the organisation of regular conferences of teachers working with the project to increase their level of social responsibility (short title - didactic adult education),
- the organisation of regional and supra-regional conferences for teachers working with the project, with the aim of improving their specialist knowledge.

iii) The organisation of communications links between the local, regional and central levels of training and development work through:

. contacts with members of the groups working on the curricular outlines, and with pedagogical experts of the Hessian Institute for Teacher Training(1) (particularly in the form of workshop/sessions),
. co-ordination of feedback from the application of general outlines within a region (e.g. participation of delegates of the regional conferences in the evaluation of comments on the curricular outlines).

iv) Reconciliation between theory and practice by:

. scientific control of the pilot-scheme, and
. contacts with representatives of Hesse universities.

v) The testing of alternative models leading to decisions on working aims, and the choice of personnel to carry them out, by:

. the development of methods to reconcile the training needs of teachers and demands raised by regional and supra-regional school development, in a participative decision-making process,
. the organisation of regional co-determination and advisory panels, and
. the creation and staffing of a project group responsible for the overall development of the scheme, drawn from regional and supra-regional elements with interests in training and development.

vi) The creation of a regional information and advisory system for:

. receiving the demands (for materials, advisory personnel, speakers) from individual teachers, specialist staff/school conferences,
. the development of the pilot scheme administration centres as documentation and information centres,
. the preparation and presentation of information exchanges/ special subject conferences/round-table discussions,
. running of workshop sessions.

## 3. SELECTED EXPERIMENTAL FINDINGS HITHERTO

### Testing and further development of the curricular outlines

#### Evaluation of an initial feedback process

In Hesse, school-based curriculum development has been planned in close relation to the problems of applying central plans to teaching practice. Thus the first experimental findings set out below

1) This refers to a Hessian central institute for teacher training, offering one-week courses. Residential capacity: 246.

should be seen in the light of how far school-based work could proceed in relation to central development.

Basic data of the curricular concept, such as school level, learning objectives and specialist orientation, condition the major areas of work and the ways in which it is carried out in development and training performed at a regional level. Thus the testing of the planned objectives in the four experimental areas, and the continuing discussion round it, have shown that these objectives - irrespective of class or academic discipline - have imposed too heavy a demand on individual teachers and individual schools in the majority of cases. This has been aggravated by the further problem that teachers are made to teach subjects and on levels other than the ones they have been trained for, or are employed to teach on a part-time basis only. The objectives as set out in the overall planning of school development in Hesse(1) are described as a "blueprint for methods of teaching which very largely do not exist yet, and for which the conditions and possibilities must first be created".(2) The curricular outlines do not end the phase of centralised development work, but are to be seen as leading to co-ordinated activity between the central, regional and local work, on the basis of prescribed aims; this type of work is based on co-ordinated and co-operative interpretation of the outlines.

In these circumstances, the qualifying of teachers as agents of innovation through school-based teacher training is a key function. The experience gained in the pilot scheme underlines its capacity to create teacher-centred innovative concepts,(3) but the idealistic momentum it develops suffers from the demand that all teachers take an active part in the work of introducing these concepts into the schools, in the sense of their critical adaptation and further development (see, for example, the provision of teaching material directed towards teaching objectives, work on concepts of content based on classification of children in learning groups).

Altogether, one can distinguish four distinct categories among teachers:

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1) Hessischer Kultusminister (ed.): Bildungspolitische Informationen Nr. 3/72. Neue Hessische Lehrpläne (Rahmenrichtlinien). Begründung, Aufgaben, Zielperspektiven. Wiesbaden 1972.

2) K. Heipcke and R. Messner: Curriculum-Entwicklung unter dem Anspruch praktischer Theorie; in: Zeitschrift für Pädagogik 3/1973, p. 351 ff.

3) Arbeitsgruppe Curriculum: Regionale Religionspädagogische Zentren - Stützpunkte kontinuierlicher Curriculum-reform. Rahmenkonzept. Münster 1973 (D.I.P. - Diskussion Nr. 2).

H. Becker, P. Bonn und N. Groddeck: Demokratisierung als Ideologie? Anmerkungen zur Curriculum-Entwicklung in Hessen. In: Betrifft: Erziehung 5 (1972), H. 8, pp.19-29.

P. Bonn: Konkretisierung der Rahmenrichtlinien an Gesamtschulen - Bericht über einen Modellversuch in Hessen; in: K. Frey (ed.): Curriculum Handbuch, vol. 1, München-Zürich 1975, p. 363 ff.

- Those who are already working closely towards the aims expressed in the curricular outlines even before these are published;
- teachers for whom changes in accordance with the objectives meet their requirements for a broadening of their specialist and social expertise;
- teachers who - even taking into account the discussions round the objectives, and the arrangements for testing them, have still not come to terms with the concept - either in theory or in practice;
- teachers who, for a variety of reasons, do not accept the proposals for their own teaching area (for example, reservations to do with its normative aspects, resistance as an expression of traditional subject independence, or based on the discrepancy between the claims made by the objectives and current educational realities: size of classes, pupil timetables, learning abilities of pupils, etc.).

Within the parameters of this situation, the task of fostering training and development work must at the same time include an awareness of the nature of regional conditions.

The influence of the collective situation in the region on teacher attitudes to innovation is considerable; for instance, on the importance the above-listed teacher categories working in the experimental districts attach to proposals for change. Part 5 of this case study discusses the issue in detail.

Organisation and co-ordination of decisions concerning the selection of main area for experiment

The introduction and further development of the curricular framework of objectives in the initial stage involves decisions on where the major efforts will be concentrated; this is a matter of a creative compromise between the requirements of the objectives, and:

- the learning history of the pupil group (level of education and social awareness)
- the availability of free teaching time (pupil timetables)
- size of the pupil group
- school facilities available
- educational qualifications of the teachers
- level of organisational school reform.

Experience gained in the pilot scheme and the reports on testing show that in the view of teachers the curricular outlines have little or nothing to do with these factors relevant to classroom practice. An equally weighty finding is that a large number of teachers do not plan their teaching programmes along the lines of the

basic parameters given earlier, but use only a few isolated factors. From this it follows that the first task of the regional centres in connection with the testing of outlines of a curriculum must be to organise their introduction in such a way that it also becomes a decision and selection process on the part of the teachers.

The organisation of co-operative planning of teaching in pilot groups

The investigation of major areas of focus in content leads to decisions on the working programme of teacher groups involved in the preparation of teaching materials and planning concepts. The following experimental findings have been produced:

- this type of work on partial curricula only appeals to a small number of teachers;
- these teachers base their approach, understandably, almost exclusively on their own experience and expectations, i.e., the transfer aspect has a very subordinate role for them in the development work;
- since almost every development group in the pilot scheme brings together people with a wide variety of different attitudes (varying views on professional role, subject approach, assessment of the factors conditioning learning), the aspect of mediation assumes much importance;
- it follows that the extent to which the working group succeeds in treating its own learning and negotiation process as a genuine object of its activity will automatically determine the relative value of its results to groups that have not participated in the work;
- development work including the reflection of the processes that produced it has proved to be a basic qualification for the members of the group involved as agents for the further dissemination of the approach.

Investigation of conditions controlling the introduction and transfer of working results of school-based development groups

A third major area of concentration is the testing, adaptation, and further development of material produced by the development groups.

The working area is teaching practice, not only of teachers participating in the project but of those not involved but who will be brought into the testing and discussion of results. Whether these non-committed teachers can be integrated depends on the level to which co-ordination can be achieved within schools and between schools (the legitimation aspect), and the form in which the material is presented (the motivational aspect).

Experimental findings so far show that the supply of the new material should be capable of further development and alteration, so that teachers could acquire an active relationship with it - in other words, could use their existing expertise upon it.(1)

From this can be derived the presentation of the product which on occasion can turn into a further stage of the development work.

The varied appreciation of the curricular objectives, and of the teacher's understanding of the approach and the planning behind it, argues for the desirability of making sure that in this development phase there are representatives of those teacher groups to which we have already referred (see page 194). The problem at this stage is to win over those who have already shown a positive attitude to teacher training to development work.

Experience gained in the pilot scheme shows that long-term and continuous school-based work is needed to alter the passive expectation of teachers in the matter of the provision of materials or directives from outside. They must be assured that their daily experiences and difficulties are being taken seriously.

The provision of information and communication as a condition for the introduction and transfer of working results

But the initial process we have just described does not result instantly in a self-steering process of recipient-orientated curriculum development. For this to happen there must be outside participation to check out expectations and experimental solutions in a wide context with the aim of putting the results into classroom practice. Here it has already proved useful to promote the organisation of communication between groups of teachers scattered across the whole spectrum of needs and expectations.

Experience has shown, too, the value of the regional centres: unlike development work carried out locally or centrally (internal school groups, specialist groups planning curricula, central teacher training institutions), activity at a regional level has succeeded in establishing a flexible system of step-by-step supply which has not only brought very diverse teacher groups into pilot schemes but has simultaneously created communication links between them.

On the role of supra-regional co-ordination and support of school-based development and training

The factors we have just reviewed indicate the sort of tasks and problems that cannot be tackled on regional level alone. At the

1) This advice is based on the finding that, in many cases. what seems an unsolved problem in teaching material in the eyes of the development group is not treated as a problem at all by the teacher adapting it.

same time (even if indirectly) the regionally organised introduction and filling-in of curricular outlines have a promotional function for further development at the central level. In the view of the regional centres, the major areas of co-operative work are:

- the checking of selection decisions and criteria for the testing of curricular outlines by the central development groups;
- the preparation of literature on subject teaching and general educational theory by central work groups to meet the specific needs of regional work groups;
- the feedback about problems specific to learning groups encountered during the introduction of the objectives. This can serve as fundamental material for supra-regional use;
- advising regional work groups on the solution of specific problems (e.g., workshop conferences);
- the guiding of practical test programmes and of the adaptation of the resulting products along selected lines;
- qualification of the pedagogical staff in the regional centres for advisory functions, and particularly for skills in the initiation of co-operative working processes (the broadening of their social and specialist expertise).

Co-ordination of the creation of orientation levels irrespective of school type (class 5/6)

Experience in the testing and further development of the curricular outlines over the period of the pilot scheme was very largely provided by voluntary teacher groups, all of different training, experience and expectations, who in the first instance were ready to work with other teachers in planning, carrying through and evaluating their own classroom work. In the same way, the co-operation of those groups specifically concerned with school-based curriculum development with the 'adaptation groups', and the groups for central curriculum development, was of a voluntary nature; thus it is clear that the question of taking a representative sample of the total teaching population was not a decisive point in the operation.

As the result of a decision taken at political level by the Bad Hersfeld/Rotenburg district council, three orientation groups for grades 5 and 6 were set up, independent of school type. This provided a valid area of experimentation.

The creation of these orientation groups demanded the co-operation of teacher groups in a number of schools in order to plan an approach to content based on providing differing teaching material for heterogeneous learning groups. All teacners had previously been limited to experience in specific school types, teaching years 5

and 6 with set textbooks and working with relatively homogeneous pupil groups. The most important task was, therefore, to take collective decisions about

- the textbooks and teaching material to be used,
- the aims and content of teaching multidisciplinary projects,
- attitudes to internal and external differentiation,
- the main issues, and timetabling, for internal/external differentiation of the organisation of learning,
- the criteria to be adopted for comparative testing throughout each year cohort to control performance,
- the criteria for the final overall decision on pupil performance, in terms of which particular educational slot the pupil will next move to - Hauptschule, Realschule or Gymnasium (Bad Hersfeld/Rotenburg area has no integrated comprehensives).

The important points about this area of co-operation are:

- All teachers carrying out a job in classes of the orientation group must take part in the collective solution of such problems as outlined above - or at least accept majority decisions on them - otherwise this presents grave difficulties at the teaching level.
- The principle of being able to switch pupils between class levels during a school year demands an organisational assurance of co-operation and close-knit co-ordination.

With all this, it seemed perfectly possible to set up the introductory stage of orientation classes at Bad Hersfeld/Rotenburg, and collect useful data, on the basis of "obligatory participation" by teachers in school-based curriculum development. Two years later the assessment looks much less promising: the existence of barriers between different groups of teachers has again been confirmed. Four such groups can be readily identified:

- those who identify themselves thoroughly with the aims of the orientation groups - optimal pupil development, the assurance that a pupil's next educational stage will be decided by as many teachers as possible, special concentration on raising the level of disadvantaged social groups in educational terms - and who at the same time want to develop teaching concepts matching these aims (even when this demands putting in a great deal of their free time);
- teachers who are well aware of their lack of training and experience to take over these new duties, and who, as a result, ask for further training and assistance with pedagogical concepts;

- teachers who do not see these new tasks as genuinely new, since for them factors conditioning the learning ability of pupils and pupil groups have been largely ignored in the way the teaching has been planned (i.e., for them the apparent performance of the pupil is equivalent to his initial ability to learn);
- teachers who reject the aims and/or methods of this particular school reform - perhaps for very different reasons.

For the concrete progress of the planning stage of the Bad Hersfeld/Rotenburg orientation groups this meant that the annual subject conferences for teachers working in the orientation groups (about 33 teachers in each case) were found to be unworkable in terms of differentiated subject curricula development. The unit of time teachers were allowed weekly for compulsory work on co-operation and co-ordination (the equivalent of one teaching hour) was by no means enough for co-operative planning of teaching approaches or the development of curricular projects; and team-work was made impossible by the lack of any consensus over aims and objectives, not least because the different initial competence and motivation of teachers taking part proved a serious obstacle to their working together.

It rapidly became apparent that those teacher groups who had already worked voluntarily in curriculum development groups at the regional centre for Hersfeld/Rotenburg were, in this other setting, still the most active in conceptual work. This, of course, raised the problem of 'legitimising' the work of a minority: to what extent could/should systems developed by a few for teaching in the orientation groups form the working basis for the many?

The model of participation of all teachers in decisions about content argued that this decision process could be organised as a learning process too:

- The general subject conference of all orientation groups decided on specific aims and areas of concentration for teaching in classes 5 and 6. At the same time it decided on the use of teaching material/textbooks already in use for a large part of the year's general teaching work, and designated either teaching units or multidisciplinary projects which were quite new to the concept of orientation groups.
- For the planning of these selected units/projects, voluntary teacher groups emerged who offered their products to the general subject conference for adoption into the teaching units. The majority of the subject conference decided for or against their introduction into the classroom, or passed back requests for alterations to the teacher groups charged with the task.

. A type of mediating body should have the job of pronouncing on controversies that might arise. This body should consist, on the one hand, of people holding further responsibility posts (leaders of orientation groups, school leaders or representatives of the lowest administrative level) and, on the other, the same number of members drawn directly from the pilot scheme (co-workers, teachers, administrative leaders) in order to avoid any premature rejection of promising approaches by a majority of teachers because they felt that the task demanded of them had been pitched too high in terms of their new knowledge. Material assistance should also provide further training together with work carried out on teaching aims and content.

These pragmatic approaches - in this case, work carried out on school-based curriculum development under daily pressure and demands - largely fail to meet, at a product level, the demand for a scientifically based curriculum. On the other hand, it appears that they can increasingly integrate all teachers in the reform scheme by enlarging their competence, making use of their experience at the educational front, accepting their ideas about teaching objectives and content, and thus, in the long run, making them professional reformers.

Development of leaving qualifications at secondary level for integrated comprehensive schools

The regional centre for Kassel-Land, where the schools are integrated comprehensives, found that most attention had to be paid to reaching a consensus on the legitimisation of items developed for the curriculum; this was an essential aspect of the work.

The type of teaching organisation in integrated comprehensives with different sorts of divisions based on performance and interests, together with the need for transferability of pupils between levels and subjects during the school year, means that the teacher is unable to carry out an individual teaching programme. Decisions on teaching aims and content must be based on comparative tests for the relevant age group.

In this situation, school-based curriculum development by the regional centres must involve individual schools in organised co-operation in planning the annual programme to make sure that the items produced can fit into it.

Because all eight integrated comprehensives in the area will in 1976 have passed on all pupils from Class 10 either to further full-time educatio.. or to part-time vocational education, these schools and the secondary level II (sixth form) establishments that would receive them had a need to define the leaving/transfer

qualifications of pupils very much more closely. Accordingly, the schools, through the local administrative office, asked the Kassel-Land regional centre to organise the joint development of leaving standards for secondary level I.

Work carried out so far seems to indicate that the activity on leaving qualifications is designed perhaps better than any other to encourage teacher groups to make their own definitions of their need for further training and of the major areas for reform.

The need for a continuous comparison between what a pupil should be able to do after his 10th school year and what experience shows he can actually do pushed any wishful thinking in teaching programmes and curricula into the background in favour of a sober assessment of what is possible in everyday teaching realities.

## 4. THE QUESTION OF ORGANISATIONAL STRUCTURE

### Links between regional centres and schools, local authorities and co-determination/advisory bodies

An important element in the pilot scheme for school-based curriculum development/regional teacher training is the development of optimal organisational structures for school-based development work - in other words, the types of institutions and institutional links, particularly at the level of the regional education authority, should not be set up at the outset but created according to research findings.

For this reason it is necessary to set up local sections of the pilot scheme in such a way that their internal structure corresponds to the hierarchical form adopted by the educational authority: Ministry of Education - county department of education (Inspectors of Education) - regional education authority - local education authority. At the same time it is important for the practical operation of the pilot scheme that the educational administration - because of the historical development of the German school system - is situated at a regional level for infant, junior, secondary modern and special schools, as well as for integrated comprehensives (control lies with the regional education office and its director), while for grammar schools and professional training schools the medium-level authority (Inspectors of Education) is directly responsible. Since the pilot scheme involves teachers from all these types of school, its administrators can be accepted as negotiating partners in regional education offices and county authorities (government presidia) alike.

All the forms of organisations so far developed, together with the selected decision and participation models, are founded on the following experience:

- teachers only become ready for voluntary co-operation in the scheme when they have taken part in the decisions on the major areas of work and the ways in which it should be carried out;
- in the first instance, the basis for these decisions is the teacher's day-to-day classroom work and the problems he encounters, but these individual decisions are not enough to legitimate the results. This is particularly true where there is pressure for co-ordinated planning of teaching programmes in the context of regional school development;
- putting the experimental findings into practice, and particularly their further development, is strongly influenced by the attitude of the regional educational office (as it also influences the readiness of teachers to take part in the work).

A model taking into account these points when formalising the decision-making process demands a set of rules that can be applied flexibly within the context of the level at which the decisions are being taken. Table 2 is an attempt to set out the parameters of this decision-making process.

Referring to this table we see that the decision-making processes differ as a function of the working objectives. For example, in column I:

A voluntary teacher group sets itself the aim of developing and testing teaching material, decides on its range of objectives, elects its chairman and proposes its work for acceptance by the regional conference as part of the overall regional programme.

The co-worker conference(1) normally selects from some 20-30 group proposals the 12 which can most effectively be supported by the 6 teaching hours removed from each group chairman's workload. Criteria for the selection of these projects are:

- the nature of the project,
- its relation to school level or subject,
- the project orientation,
- its links to major areas of regional school development,
- the adaptability by other groups of material to be made available,
- its contribution to solving pending pedagogical problems,
- the opportunity it offers for further training for teachers involved,
- the possibility of getting scientific expertise for the process of development.

The conference assesses the whole range of proposals by the teacher groups according to these criteria, and passes them on for six

1) The co-worker conference consists of the heads of the regional centres and their local colleagues, together with a representative from the central office.

Table 2

PARAMETERS OF THE DECISION-MAKING PROCESS AT VARIOUS LEVELS

| O | Major areas of work and subject areas / Decision-making bodies and levels | Teacher groups in pilot schemes | Staff conference | Regional office | Project group-central office-expert advisory group | Conference of schools involved | Local authority-lowest level: medium level: highest level | Parents - district parents' council: school/parents' council: class parents' council |
|---|---|---|---|---|---|---|---|---|
| I | Development of teaching material / testing of teaching material | Decisions on subject Voluntary agreement on individual testing of teaching methods | Decisions on the programme and documentation | | Coordination of major activities programme for the region - preparation of teaching material for publication | Recommendations of topics. Catalogue of items available-availability of mini-seminars-consent of Ministry to testing | Knowledge of programmes (HLL,ML,HL) - final check on the testing rules to ensure conformity (LL, ML) | Agreement on testing (SPC), Information (CPC) |
| II | Adaptation of teaching material (organised school groups)/further development of material | Participation in selection and if necessary participation in adaptation Evaluation feedback in teaching material | Programme decisions - decisions on major areas of activity / Participation in evaluation, consequences for further work, documentation | | Advice, evaluation, and documentation of the adaptations; advisory function | Agreement of level Conference on conditions of adaptation in the context of teaching agreements | Knowledge of adaptation conditions (LL) - Knowledge of new materials (LL) | Agreement in the case of deviation from the learning programme (HSPC), information on findings and results (SPC), information from CPC |
| III | Coordination of teaching content irrespective of school form - aims / testing of learning skills (example: leaving qualifications SI) | Election of chairman; elements for decisions on feedback; which level of work is convened to participating bodies | Programme decision: for major areas of activity staff appointments | Programme decisions on major documentation areas | Information flow: expert mediation: coordination with participating bodies: (e.g., local authorities), advisory functions | Decisions on delegates to intermediate feedback coordination groups | All decisions on areas of work - partcipation: ML: Decisions on major areas of work: Discussions of intermediate results: Ul: Establishment of areas of work; discussion of intermediate results | Information and agreement on working projects (DPC); knowledge of working project (SPC). |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| IV | Pedagogical concepts for specific school types and levels (for example, primary junior classes, differentiation in comprehensives) | 'Pioneer awareness' of group-interest in problems of mediation | Programme decisions on major areas of activity | Programme decisions on major areas of documentation | Delegation of and to teachers involved - decisions on major areas of activity-agreement on the results of putting the findings into practice | Delegation of and to teachers involved-agreement on the results of putting the findings into practice | LL: decisions on major areas of activity: ML: Knowledge of the findings: NL: Knowledge of the findings | Information on working projects (DPC, SPC) |
| V | Selection of staff; qualification of staff | Participation in the selection of staff: Expression of the demand for information; suggestions on the working organisation of the group | Naming of staff; self-qualification of staff; staff conference as a learning group; Interactive advice (regional and interregional); collective working towards a programme for centrally organised qualifications for staff; advice; documentation | | Development of learning strategies for teacher groups; development of programmes for the qualification of staff; Documentation and material service for further qualifications; advice; documentation | | LL: Advice on proposals; ML/NL: secondment in hours of teaching | |

months with a programme option to the project group of the pilot scheme.

The project group is the highest steering committee of the pilot scheme. It is composed of the director of the whole project, together with his two deputies, two experts from the central office, the four directors of the regional centres and two representatives of the co-worker conferences for each region, 1 representative of the administrative officials, the official responsible for the pilot scheme from the school planning section of Hesse's Ministry of Education, and the official responsible for central teacher training (together with university experts in educational theory and a representative from the Hesse Institute for Teacher Training as observers).

The main task of the project group is to preserve a balance between the programme decisions of the four regional centres with special reference to the major aspects of school development within the state.

The different regional programmes (teacher working groups with co-workers awarded a reduction in teaching hours, and teacher working groups without this support) are sent to the schools in the area of operations as a "catalogue of offers". In these programme lists the groups set out the state their work has reached, their planned working phases and aims, together with their timetables, and offer - if available - material produced for information purposes, or mini-seminars for subject groups in individual schools. Material already prepared is offered to schools for testing, and on demand help can be offered in monitoring the introduction of the material and evaluating the results (see adaptation groups).

The educational authorities at all levels keep track of what is going out in these programmes. In some cases, specific teacher groups or areas of work have been identified and set up by the educational authorities themselves. The areas of work connected with regional school development have been planned and organised in the closest contact with the lowest and middle levels of the administrative machinery.

For the validation of teaching programmes and their testing within the classroom, the consent of the relevant parents' council of the school should have been gained, and further information should be drawn from the parents of the pupils in classes where the experiment is under way. The lowest and middle levels of the administration are informed of the test conditions and the agreement of parents. Developed curricular material which has been tested by teachers in the classroom and in many cases already adapted or further developed by other teacher groups is once again returned to the project group for a decision to be taken about its publication either in the journal Curriculum Konkret or in the series Teaching Materials.

Comparing this pattern of decision-making with that applied to the co-ordination project (Column III in the table), it is clear that the main difference lies in the weight given respectively to the educational authorities and the individual schools.

The conditions for co-operation mostly arise from the actual needs of schools or the educational authorities. Agreement of educational authority officials and Headmasters often includes implicit awareness of the educational outcome in terms of financing and personnel. Unlike the groups of teachers working on a voluntary basis towards the co-operative planning of teaching programmes, those teachers working in co-ordination project groups have their activity recognised and rewarded; in other words, their activity cannot be organised in their own time.

By the same token, the legitimisation of products stemming from this co-ordination work demands that all teachers and educational authority officials take part in the process of decision. Thus, organised collective work with the conferences of individual schools and the educational authorities is a component of the working process.

With the agreement of the project group for this type of regional work organisation, the central project office and its pedagogical and specialist experts take on the important duty of supporting the work by the preparation of information, the provision of experts, the co-ordination of the working process throughout the region, and generally play both an active and an advisory role.

Despite the necessary differences in the patterns of decision-making, one attempt is under way more completely to formalise the joint decision-making process in the region. The regional centre of Limburg/Weilburg has set up a regional advisory council operating together with the co-worker conference. It has a powerful voice in decisions on the programme, is equally able to suggest and publish working methods, and to vote on the proposals by teacher groups outlined earlier. In cases of dispute, it has the right to a decisive say on one third of the projects put forward.

This advisory council is made up of representatives of the teachers' organisations, the parents' and pupils' councils of the area, the regional educational authority, headmasters, school administration and the central office for the pilot scheme. So far sufficient results have not come in for an accurate assessment of the operating possibilities and performance of this wide-spectrum model linking all the interested parties. The system can operate either by having a useful effect on the progress of regional school development or by allowing teaching to fall under yet further control.

Teachers working with the project have admitted in a number of in-depth interviews that this latter result was their main fear. In their view, the decisive factor for the future institutionalisation

of school-based curriculum development in Hesse is that it should be separated from the educational authority.

From an abstract point of view, the success of co-operation depends on how far it manages to create a basis of common interests for decision-taking. Only thus will it be possible to avoid an impasse of confrontation. This hope, in the concrete situation of the moment, will be fulfilled to the extent that the individual institutions do not see their own pressure for definitions and legitimisation of their work as a field for many-sided competition.

Experience during the operation of the pilot scheme indicates that these limiting problems largely disappear when co-operative work is carried out on the basis of common practice.

## 5. TEACHER PARTICIPATION: A COMPARISON BY GROUPS

This section endeavours to give a picture of the groups of teachers that participated in the experiment and to show how they differed from the other teachers. The conclusions reached in this matter are drawn from an analysis made in 1975 by the scientific working party set up in connection with the experiment in the four experimental areas chosen.(1) The purpose of this empirical examination was to discover the objective and subjective factors conditioning participation or non-participation.

One of the two groups polled consisted of all teachers who, in the summer of 1975, had regularly taken part (i.e. had attended more than 50 per cent of the meetings) in a working party and who were teaching in a non-specialised school in one of the four areas (N = 466). Teachers in this group are described for the purposes of this paper as "participants". The second group consisted of a representative sample drawn from the remaining 3,695 teachers in the four areas who were teaching in non-specialised schools. Teachers in this group are described in this paper as "non-participants".

The questions to be examined were as follows:

A. What are the typical group characteristics of those who participated and those who did not? Or, in other words, are there social and/or personal peculiarities that distinguish participants from non-participants?

B. In what way do these group peculiarities differ from one geographical area to another?

The data were collected by postal poll. The readiness with which teachers completed and returned the questionnaire sent to them

1) Hersfeld and Limburg (areas without comprehensive schools), Gross-Gerau (with integrated comprehensive as well as other school types), and Kassel (with only integrated comprehensives).

by post was remarkably high: 59 per cent for the "participants" and 57 per cent for the "non-participants".

The comparison of groups of participants and non-participants was made along the following dimensions:

1. Biography
2. Career
3. Experience of co-operative activities
4. Membership of organisations
5. View on status
6. Political tendency
7. Participation in further training activities
8. Ideas on teaching methods
9. Assessment of Hesse's outline directives.

The preliminary results of the analysis are as follows.(1)

A. Comparison of social and individual characteristics across geographical areas

The most remarkable result of the group comparison is that, when the data are compared across geographical areas, there are no marked ways in which the group of participants can be distinguished from the group of the non-participants. Depending on the dimension considered, there are either no significant group differences at all or only minor ones, as shown below.

1. Biography

The distribution of participating and non-participating teachers according to age groups resemble closely one another (see Figure 1), with an exception for the tail ends. Here, both in the youngest and the oldest age group, one finds significantly more non-participants than participants.

Tentative explanations for this could be found, for the youngest group, in the conservative roll-back at the universities in reaction to the student revolts, the collapse of many attempts at reform, and the reinforcement of political repression in the public services as a result of the decree concerning radicals. These are all factors that have not been without their effect on the readiness to innovate and the devotion to duty of many a young teacher.

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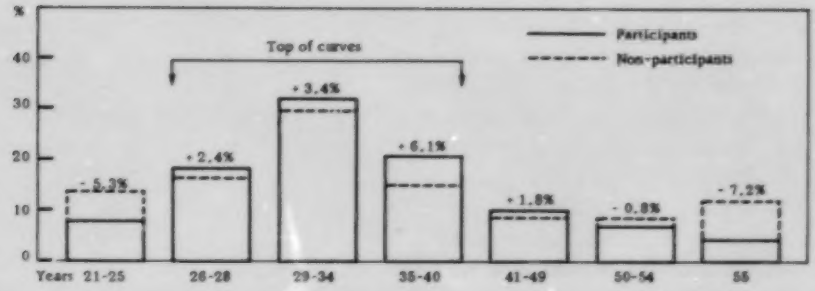
1) Whenever quantitative results are available they are given as percentages with respect to the group in question (e.g. 10 per cent) and/or as an algebraic percentage with respect to the other group. In this case the figure will appear in brackets [e.g. (± 10 per cent)]. Levels of significance will be indicated accordingly to the following code: "h.s." for highly significant, "s" for significant and "n.s." for non-significant.

Figure 1




Distribution of participants and non-participants as a function of age groups. The fact that both distributions peak at the 29-34 age group reflects the effects of the teacher recruitment campaign carried out successfully in the sixties, when the shortage of teaching staff led the educational authorities to the elaboration of a series of measures - e.g. improved training and pay - intended to make the profession more attractive.

As for the teachers over fifty-five - by far the smallest group of participants - they have mostly reached the final stage of their career: for them, therefore, participation in the scheme for further training could hardly be a means of obtaining promotion. And after thirty years or more in their jobs, it is probable that they will have suppressed or explained away any perturbing differences between the way they perceive their own professional ideals or designs for improving the school and the day-to-day practice of teaching in an educational system which it seemed almost impossible to change. In addition to length of service, psychological needs almost certainly play their part.

2. Career

The proportion of non-participants teaching in integrated comprehensives at 10.2 per cent (h.s.) is higher than among the participants, and so too is the proportion of those teaching in a Gymnasium (+ 3.8 per cent, h.s.). At the time of the poll 8.5 per cent of the non-participants described their professional status as Director or Vice-Director (+ 4 per cent, h.s.), 9 per cent as Referendar (+ 5.1 per cent, h.s.) and 16.4 per cent as Studienrat (+ 2.8 per cent, h.s.). On job satisfaction they showed little difference from the participant group (22.9 per cent had at some time seriously thought of giving up teaching).

3. Experience of co-operation

While pursuing their studies, the non-participants worked with working groups somewhat less (- 3.2 per cent, n.s.) than participants; the same holds good in their subsequent training period (- 4.3 per cent, n.s.). The experience gained in these working groups seemed "very positive" to fewer non-participants (- 6.5 per cent, n.s.), and the disapproval they expressed was slightly greater. In reply to the question on how often they had worked in a team, over 82 per cent replied "seldom" or "never", only 17.7 per cent (- 13.1 per cen, h.s.) claiming to have worked "frequently" in a team. Moreover, they were more sceptical about the "success" of team work: only 6.1 per cent (- 5.7 per cent, s.) assessed it as "less successful". As these last findings are significant or even highly significant, it can be assumed that less experience of co-operation and a more negative attitude to group work is what distinguishes the non-participant from the participant group.

4. Membership of organisations

More than 10 per cent more participants than non-participants stated that they were members of a teacher association or a trade union (+ 10.4 per cent, h.s.). Much the same percentage claimed that they were members in other associations or societies (+ 8.3 per cent, h.s.). Clearly, then, membership of an organisation showed to be another distinguishing characteristic between the groups of teachers being compared.

5. Views on status

No significant differences between the two groups were found along this dimension. The majority of the two groups replied negatively when asked whether teachers of all levels of school should receive the same pay or had to put in the same number of hours on duty.

6. Political tendency

Two points had been raised which concerned the students' and schools' unrest in the years 1967 to 1970, and the trend of educational policy in Hesse. On the first point, the attitudes of the participants were found to be significantly more positive than for the non-participants. As for the second point, no significant differences were found between the two groups, both showing remarkable internal divergencies of opinion as to the direction ("further evolution" or "consolidation"), in which the educational policy in Hesse was perceived to be moving.

7. Further training

As was to be expected, this dimension produced distinct differences between non-participants and participants. Only 62.4 per cent (- 15 per cent, h.s.) of non-participants had taken part in central courses at the Hesse Institute for Further Training of Teachers, and 35.1 per cent (- 11.9 per cent, h.s.) had followed courses by radio. The conclusion that can be drawn from these figures is that the number of teachers interested in further training and additional qualifications was considerably lower amongst the non-participants than among the participants.

8. Ideas on teaching materials and methods

The questionnaire contained only two questions in connection with this dimension. Nearly half (49.1 per cent) of the non-participants stated that their teaching was based largely (+ 10 per cent, h.s.) on textbooks and not on material that they had collected themselves. The attempt to let a class work on its own in learning groups had "seldom" or "not yet" been made by 67.5 per cent (+ 8.8 per cent, h.s.) of the non-participants, while 32.5 per cent claim that they do so frequently. These results can be taken to indicate that about half the non-participants use traditional forms of teaching, while slightly more participants reported to individually developed teaching materials and methods.

9. Assessment of Hesse's outline directives

In the design and in the practice of the model experiment in Hesse decisive tasks were allotted to teachers. They were not only to modify curricula already in use in order to make them conform with the realities of the situation, but were themselves - with the aid of the outline directives - to develop teaching units, to try them out, and in doing this, to help narrow the gap that separated democratic postulates and the realities of society. The strategic move made by those who drafted the outline directive and established the model experiment was intended to contribute to the elimination of class privileges and social dispartities, and it has touched off throughout the Federal Republic a discussion of the problems involved in a reform of the curriculum. In view of the claim that further training for teachers and school-based curriculum revision should be tied in to the discussion and further development of the outline directives, the experiment was inevitably exposed to the pulls exerted by disputes over the curriculum revision undertaken in Hesse in 1968.

The question "Do you consider the model experiment on further training for teachers - by areas - to be part of the action by which the outline directives of Hesse are being translated into practice?"

evoked roughly similar answers from participants and non-participants, so produced no significant differences. In both groups the great majority of teachers polled (participants 81.8 per cent, non-participants 77.4 per cent) were aware of the connection between the work being done in the model experiment and the process of trying out the directives and putting them into practice.

As for the attitudes towards the directives, some significant differences were however found. A comparison of the percentage distributions makes it clear that more participants (+ 17.2 per cent) than non-participants approved the aims behind these draft directives. It can also be seen that more than 55 per cent of the non-participant teachers expressed no clear views on the directives. This can be taken as evidence that indifference and lack of information on the directives were essential traits in the group profile of the non-participants.

A remark to be made is that, despite the generally more sceptical and negative attitude of the non-participating teachers towards the directives, more than a quarter of them can however be counted among those who approve and support the controversial directives on German and civics. If this finding is taken together with the high percentage of non-participants who consider the experiment to be part of the moves to translate the directives into practice, the conclusion can be drawn that amongst the non-participants the experiment not only had an appreciable number of well-wishers, but also that among the non-participants there was, taking all groups together, a considerable number of potential participants who had not been mobilised.

To sum up, it can be said that neither the participants nor the non-participants formed a homogeneous group, and that the differences between the two groups are relatively small. With regard to the dimensions considered, the two groups showed far more similarities than differences. Nonetheless there is all along a clear cleavage of 3 per cent to 15 per cent between the two groups in respect of the dimensions considered.(1) The great majority and the overall average of the participants in the further training exercise were therefore in no way untypical teachers. This general conclusion must, however, be qualified in line with the particular composition of the body of teachers in each area.

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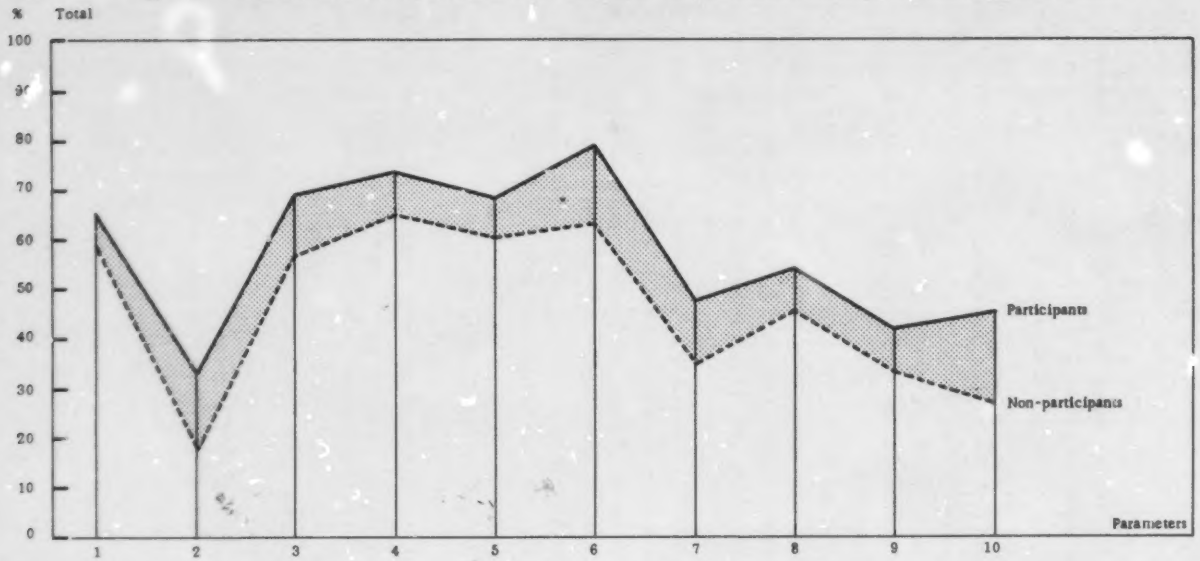
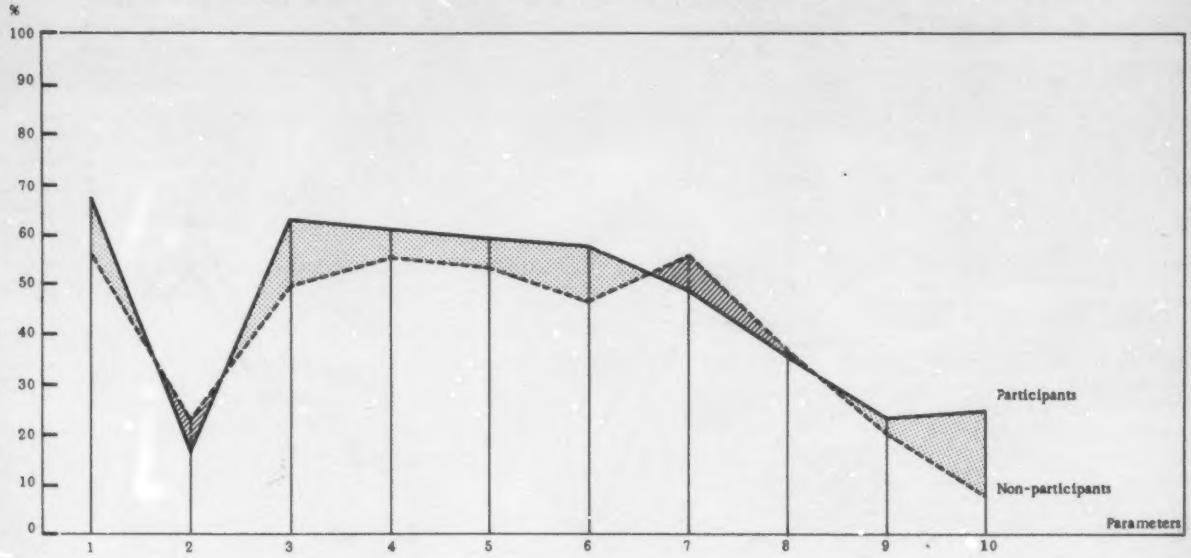
1) See Figure 2, where the initial dimensions 2 to 9 have been broken down to 10 parameters for the sake of the analysis.

**Figure 2. COMPARISON OF PARTICIPANTS AND NON-PARTICIPANTS ACROSS GEOGRAPHICAL AREAS**




1. Studied in an academic institution.
2. Frequent work with a team.
3. Membership in a teachers' organisation or a union.
4. Positive assessment of schoolchildren's unrest.
5. Positive assessment of student unrest.
6. Followed HILF (further training) courses.
7. Followed course on radio.
8. Used own teaching material in class.
9. Frequent experiments with independent groups of pupils.
10. Approval of intentions behind the Land Hesse outline directives.

**Figure 3. COMPARISON OF PARTICIPANTS AND NON-PARTICIPANTS IN LIMBURG**
**(area without comprehensive schools)**




1. Studied in an academic institution.
2. Frequent work with a team.
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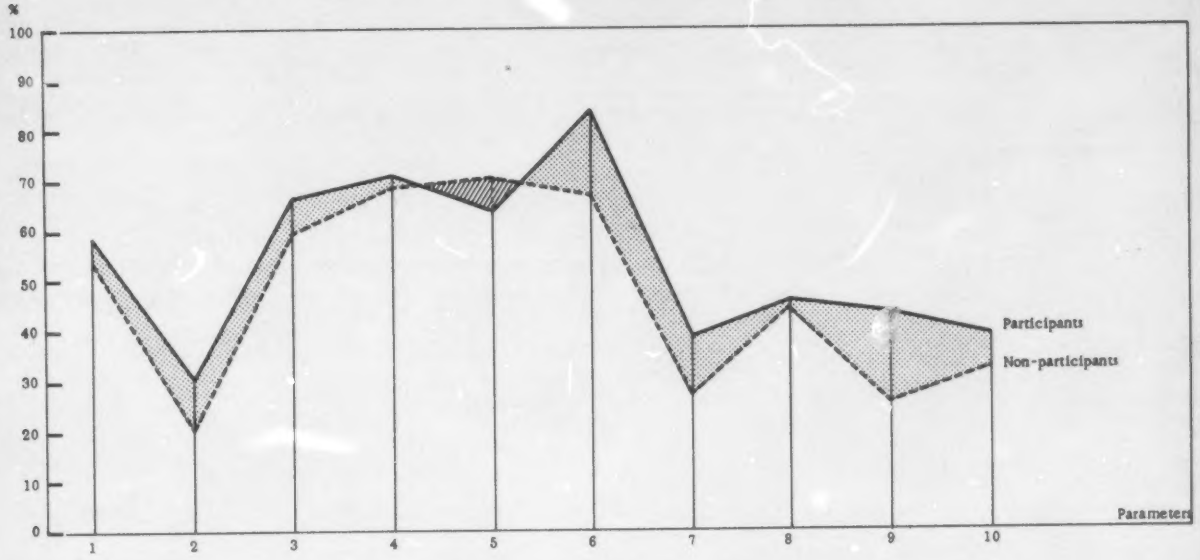
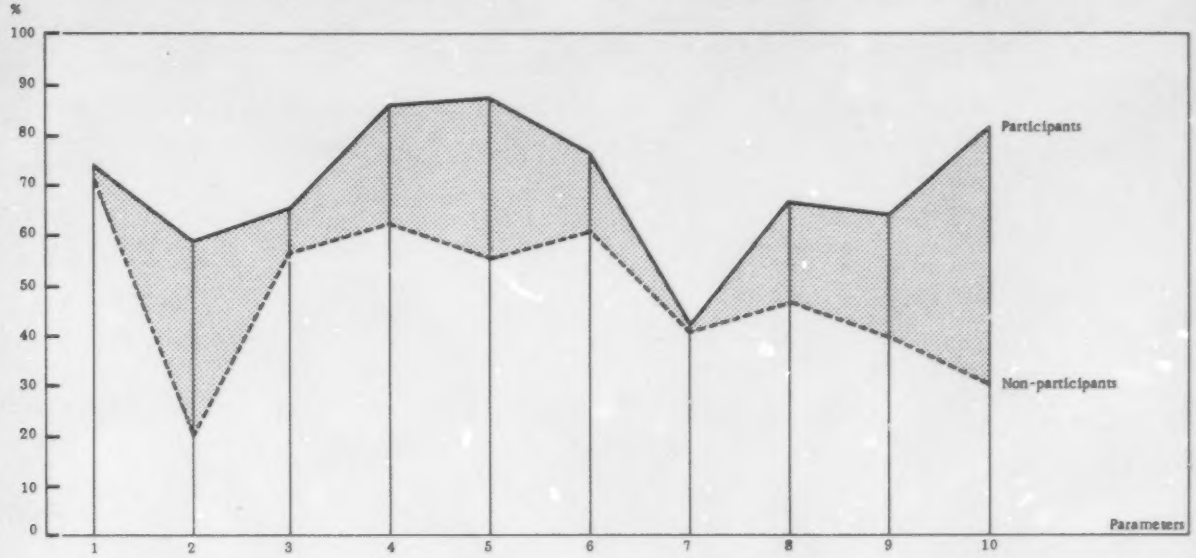
4. Positive assessment of schoolchildren's unrest.
5. Positive assessment of student unrest.
6. Followed HILF (further training) courses.
7. Followed course on radio.
8. Used own teaching material in class.
9. Frequent experiments with independent groups of pupils.
10. Approval of intentions behind the Land Hesse outline directives.

**Figure 4. COMPARISON OF PARTICIPANTS AND NON-PARTICIPANTS IN KASSEL-LAND**
**(area with only integrated comprehensive schools)**



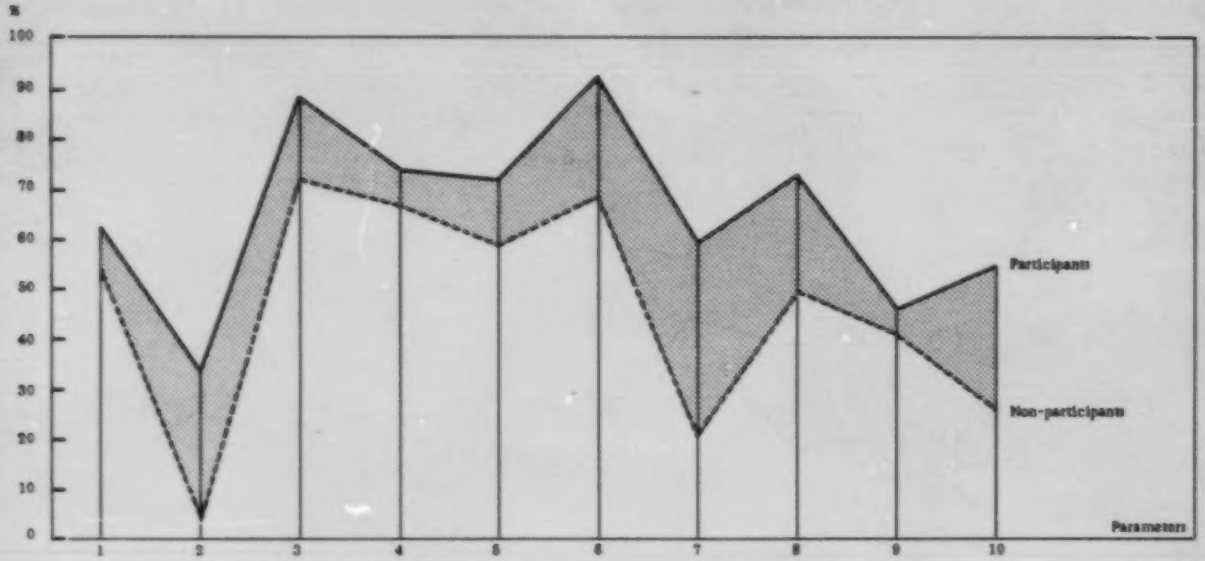

1. Studied in an academic institution.
2. Frequent work with a team.
3. Membership in a teachers' organisation or a union.
4. Positive assessment of schoolchildren's unrest.
5. Positive assessment of student unrest.
6. Followed HILF (further training) courses.
7. Followed course on radio.
8. Used own teaching material in class.
9. Frequent experiments with independent groups of pupils.
10. Approval of intentions behind the Land Hesse outline directives.

**Figure 5. COMPARISON OF PARTICIPANTS AND NON-PARTICIPANTS IN GROSS-GERAU**
**(area with integrated comprehensives as well as with other types of school)**




1. Studied in an academic institution.
2. Frequent work with a team.
3. Membership in a teachers' organisation or a union.
4. Positive assessment of schoolchildren's unrest.
5. Positive assessment of student unrest.
6. Followed HILF (further training) courses.
7. Followed course on radio.
8. Used own teaching material in class.
9. Frequent experiments with independent groups of pupils.
10. Approval of intentions behind the Land Hesse outline directives.

**Figure 6. COMPARISON OF PARTICIPANTS AND NON-PARTICIPANTS IN HERSFELD (area without comprehensive schools)**




1. Studied in an academic institution.
2. Frequent work with a team.
3. Membership in a teachers' organisation or a union.
4. Positive assessment of schoolchildren's unrest.
5. Positive assessment of student unrest.
6. Followed HILF (further training) courses.
7. Followed course on radio.
8. Used own teaching material in class.
9. Frequent experiments with independent groups of pupils.
10. Approval of intentions behind the Land Hesse outline directives.

B. Comparison of social and individual characteristics by geographical area

When the comparison between the group of participants and the group of non-participants is carried out by areas, the similarities between the two groups break up remarkably, as shown in Figures 3 to 6.

As already shown in the previous sections of this report, it was assumed, when the experimental model of "Further training for teachers - by areas" was being designed, that the economic, political and social structure of an area (or of a Landkreis) determines the composition of the teaching staff in the area, and that the effective situation of the schools determines what possibilities are open to the teacher to develop curricula closely related to the needs of the pupil. In the light of the results obtained this assumption turns out to be so accurate that it would be more correct to talk of four area experiments in which an attempt was made to put into practice variants of one basic design in view of the differences in infrastructure and taking into account the teaching staff at work in each area.

Before commenting on the results set out in Figures 3 to 6, let us describe very briefly the main characteristics of the four geographical areas concerned.

Limburg

The district (Landkreis) of Limburg contains little industry, and is characterised very largely by small and medium-sized business and commercial firms. It differs from the other areas mainly by the high proportion of Catholics in its population (77 per cent). The development of its schools is in large measure hobbled by tradition - and that situation is little changed by the existence of one non-integrated comprehensive, with a second (integrated) comprehensive just being built.

Hersfeld

The district of Bad Hersfeld-Rotenburg is part of the borderland lying on the Federal side of the German internal border. Owing to the high proportion of agriculture in the area, the density of population is low, the unemployment rate and the numbers leaving the area high. The majority of the population is Protestant and traditionalist. The school situation in the area reflects this traditionalism. In 1972, when the model experiment was set in train in this area, the traditional school system with its three parts still existed unchanged; in 1975 it employed 732 teachers. At the beginning of the school year 1974/75, promotion stages (Förderstufen) were

introduced, and by now a number of comprehensive schools are being built. By comparison with the three other areas, the body of teachers is elderly and contains a very low proportion of women (28 per cent). There are few instances of an organised trial for the outline directives in this area.

Gross-Gerau

Unlike Hersfeld, the district of Gross-Gerau covers a highly industrialised area, its so-called "industrial alley" on the northern boundary being part of the Rhine-Main conurbation. The population of the district is denominationally very mixed. Development of the schools in the district has made great headway. In certain parts, the promotion stage was introduced at an early date, and there are several integrated comprehensives. The number of cases where the outline directives were being given a trial was above average. In 1972 the area was the scene of several school strikes and pupil demonstrations.

Kassel-Land

The district of Kassel-Land is a heterogeneous area made up from a number of former rural districts which in part resemble the Hersfeld area (population static over the last twenty years, mainly agricultural establishments, conservative Protestantism), while the other part has resemblance with the Gross-Gerau area (proximity of a large town and a university, high degree of industrialisation). Here too the majority of the population is Protestant. The development of schools in this rural district has made even greater strides than in the Gross-Gerau area. Over 43 per cent of the teachers in the district teach in integrated comprehensives (in Gross-Gerau, 25 per cent). The number of trials given to the outline directives was just as high here as in the Gross-Gerau area.

In the comparison of participants and non-participants in these areas certain findings are particularly striking. We summarise them below, making reference to the relevant numbered parameter.

N° 2 - "Frequent work with a team"

The question on "frequency of co-operation in a team" showed up a remarkable disparity in the answers received from the various areas, with a maximum difference of 40 per cent between the maximum (Gross-Gerau) and the minimum (Limburg) frequency assessed.

While in the Limburg area there were even more non-participants than participants who stated that they frequently worked in a team, the reverse was the case in all other areas. In the Gross-Gerau area there are evidently far more participants (+ 37.6 per cent) than

non-participants who co-operate (and in Hersfeld + 22.9 per cent, in Kassel-Land + 9.5 per cent). These differences in the replies received can be taken to indicate the greater or lesser degree to which, in these areas, the experiment affected the choice of teachers with experience of and an interest in co-operation, or actually attracted them.

N° 3 - "Membership in a teachers" organisation or a union"

In the Limburg area the number of teachers who report that they are members of an organisation is below average; in the Hersfeld area it is above average. The low level of membership in a trade union among teachers in the Limburg area may perhaps be due to the strength of the Catholic Church in the area. One possible explanation of the more than averagely high membership of a trade union among the teachers of the Hersfeld area may be related to the fact that the supervisory official for schools in the area himself holds high office in a teachers' union.

Nos. 4 and 5 - "Positive assessment of school children and student unrest"

The replies given by teachers in the Limburg area in connection with these two parameters (which indicate political tendencies) again differ sharply from those given by those in the remaining areas. Once more there is a pronounced cleavage between participants from the Limburg area and those from the Gross-Gerau area (on 4, 24.8 per cent; on 5, 27.4 per cent). The particularly positive assessment of pupil and student unrest by participants in Gross-Gerau must be seen in relation to their relative youth and their direct contact with the wave of protest.

N° 6 - "Followed further training courses"

This parameter can be taken to some extent as an indicator for a general readiness to accept further training. Among both participants and non-participants it is teachers in the Limburg area that have done less about central further training than those in the remaining areas, while those in the Hersfeld area replied very frequently that they had followed courses offered by the "Hesse Institute for Further Teacher Training" (HILF); in comparison with Limburg, the difference for participants was 35.6 per cent, for non-participants 23.1 per cent. The fact that a particularly high percentage of teachers from the Hersfeld area followed these courses appears to be connected with the relatively high average age of these teachers (which implies a longer career as teachers) and the proximity of the central Institute, which is located in Kassel. But

the low degree of interest shown by teachers from the Limburg area can hardly be explained by the age structure of the group, since from among the younger teachers of the Gross-Gerau area far more (participants + 18.7 per cent, non-participants + 14 per cent) followed these courses despite the shortness of their careers.

Nos. 8 and 9 - "Used own teaching material" and "Frequent experiments with independent groups of pupils"

As elsewhere, a comparison of these two parameters which can be looked on as rough-and-ready indicators for the pedagogical ideas of teachers and their readiness to innovate, brings to light a sharp difference between the replies from teachers in Limburg and from those in the remaining areas. While only 36.2 per cent of participants from the Limburg area stated that they used teaching material that they prepared themselves, the corresponding figures were 66.7 per cent (+ 30.5 per cent) for Gross-Gerau and 72.4 per cent (+ 36.2 per cent) for Hersfeld. Similar relationships appeared with the dimension "Frequent experiments with independent work by pupils", where over 40 per cent more participants in the Gross-Gerau area than in Limburg stated that they had frequently made such experiments. On these two matters, even the non-participants in all the other areas achieved higher figures (9-19 per cent) than the participants in the Limburg area, whose professional self-image is evidently inclined to be strongly conservative.

N° 10 - "Approval of intentions behind the Hesse outline directives"

Of the four areas, it was again Limburg that produced the most marked deviations from the other areas, returning the lowest number of supporters for the controversial directives on German and civics. In this area there is, linked with religious observance on Catholic lines, a form of traditionalism that raises barriers against innovations in educational policy. Nonetheless, a relatively large number of teachers in the area were ready, in the experiment, to support the directives. The support given in Kassel-Land, on the other hand, was weak, although this area contains the largest number of comprehensive schools. Moreover it was here that there was the largest number of supporters among the non-participants. Evidently it was in this area that the experiment had the least success in evoking active co-operation among those who supported the directives. The situation was different again in the Gross-Gerau area, where - in a low proportion of participants - it was almost exclusively supporters who co-operated (80.5 per cent of those who participated).

This brief survey of the results by area leads to an image of the areas concerned which is somewhat at variance with the socio-

geographical survey given before. When the stage reached in the development of integrated comprehensive schools was used as a differentiating criterion, the description shows the Gross-Gerau and Kassel areas forming a pair on the one hand, Hersfeld and Limburg a pair on the other. In the reported survey, however, the similarities are greater between Gross-Gerau and Hersfeld, Kassel-Land and Limburg. This situation may perhaps be explained by a look at the historical circumstances in which the various areas set to work on their experiments. Gross-Gerau and Bad Hersfeld began at the end of 1972, while in Limburg and Kassel the area centres were not set up until the end of 1973 or early in 1974.

Characteristic for the starting position in 1972 was a political situation in which the plan of the model experiment seemed to be relatively firmly established in educational policy participation by the teachers in curriculum development in contact with teaching practice could be taken to be a serious policy objective of the Land Government in Hesse. In the Gross-Gerau and Hersfeld areas teachers saw concrete evidence of this in such things as the fact that the heads of the area centres and the head of the whole project were personalities who had contributed in large measure to the development of the outline directives.

By 1973/74, however, it had already become clear that the original concept enshrined in the Hesse directives had been dropped, for the orders by which the Ministry of Labour laid down rules for the work to be done under the directives were more hindrance than help. At the same time it could be seen that decisions were being taken on a change in the further development of what was in the outlines but that the reports submitted by the teachers who had helped draft them were not being taken into account. What is more, the reviews and checks being carried out under the heading of "Berufsverbot"(1) had become known and considerably diminished the readiness to run risks with involvement in school-based curriculum development. The shift that occurred between 1972 and 1974 is to be seen in the ranks of the people at the top of the experiment: the heads of the project are no longer concerned with curriculum development at the centre, while the heads of the area centres in Kassel-Land and in Limburg who were not previously concerned with central curriculum development and its translation into practice took on this function.

These indications modify the relative importance attached to ar a factors, such as the position attained in the evolution of the schools, but they do not cancel it out. It can be seen, for instance, that teachers in Kassel-Land and Limburg reacted differently to the offer from the area centres that they should co-operate:

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1) A form of blacklisting to exclude radicals from certain posts.

a) In Kassel-Land it was no longer possible to win over a majority of those who supported the directives to participation in the experiment. Progressive-minded teachers working in the integrated comprehensives within the area may perhaps have interpreted the introduction of the area centre as a first step towards checks on their current practice via organised co-operation. That a former official of the schools inspectorate was made head of the centre may well have strengthened this impression.

b) In Limburg, on the other hand, the small band of teachers who took a positive view of the directives may, because of official signs of a conservative interpretation of the directives, have seen a possibility of organising themselves in the area centre. In other words, while in a relatively progressive educational climate the "restorati n" exerted a negative influence on the readiness of teachers to co-operate, no such effect was to be observed in the traditionalist surroundings of Limburg.

One further point may be of interest in this connection. The areas in which work began at the zenith of the reform period were, after 1973, no longer able to modify or extend to any essential degree the structure of the development work and the numbers engaged on it. The conclusion that can be drawn is that the self-image which was formed in the build-up stage of the centre and the response elicited from those outside remained constant throughout the period of the experiment. The gradual jettisoning of the reform objectives that was occurring at Land level left the centres in these regions - and the teachers involved - out on a limb. The readiness of these teachers to go on co-operating might be evidence that the forms and conditions of work described in the previous chapters of this report have by and large been positively assessed, even if it is no longer possible to see in them a means to influence the development work that is being done centrally.

From the somewhat rudimentary reflections on the comparisons drawn between the answers given by teachers in the various areas it will be evident that, as usual, the quantified results lose their clarity as they come to be looked at from a variety of angles. This conclusion is of particular importance when we try to decide whether or not the model experiment was successful in attaining its objectives. If it is evaluated purely and simply on the extent to which its objectives were attained, then the conclusion must be that it fell most seriously short of its objectives in the Limburg area, and consequently was least successful there.

If, however, the local and wider background of the experiments in this area is taken into account, this judgment needs to be placed

in its proper perspective. When the Limburg centre was established, the general situation in Hesse was already "anti-reform", and it was then that the experiment was undertaken in a conservative-traditionalist area with teachers who could not be reckoned among the campaigners for school reform. Against the background of school-based curriculum development, assessment of the success achieved in this work ought to be measured by the yardstick of what was acquired by the teachers involved. This, however, is something that cannot be deduced from the analysis we have presented in this paper - and that, surely, is one of the consequences of the methodological approach adopted for the survey. The choice of this approach must in turn be seen in relation to whatever it was the political body (the Ministry of Culture) commissioning the survey expected to obtain. The prime aim throughout seems to have been the attainment of quantifiable results.

## 6. PERSPECTIVES TOWARDS THE INSTITUTIONALISATION OF SCHOOL-BASED CURRICULUM DEVELOPMENT

### Institutional links with the regional centres

The current effectiveness of the pilot scheme, so far as concerns regional teacher training, depends largely on its liaison function. This is true as much for the relations between the local, regional and central levels of school development as for the relationship between central and regional teacher training. The current lack of an unambiguous institutional link as far as the pilot scheme is concerned means, at least in the view of teachers, that the main official agents of the scheme can mediate with credibility between the different types of interests and viewpoints involved. Hitherto outside legitimisation has fostered the status of the pilot scheme. Already the pilot scheme's organisational structure has proved to be provisional and to be an insufficient basis for the later institutionalisation at state level. Thus an important aspect of the experimental work has been the development and exploration of perspectives towards institutionalisation.

The following reflections are based on the premise that the liaison function of the pilot scheme can be preserved, yet that it can be successfully institutionalised, so that the areas of competence are capable of being defined unambiguously. These propositions are linked to:

- the relationship between regional teacher training and school development (regional centres and regional educational authorities) at the regional level, and

- at the central level to the relationships between the supra-regional agencies for co-ordination and advisory functions (the task of the current central office in its relations with the Hesse Institute for Teacher Training and Central School Planning).

Experimental findings suggest with some assurance that in institutional terms regional teacher training/school development will remain institutionally close to central teacher training/school development. The visible expression of this connection would be:

- the integration of the central office/expert advisory committee in the Hesse Institute for Teacher Training in the form of a department for regional teacher training/school development, and
- central administration of the regional centres through the Hesse Institute for Teacher Training.

The function of the regional centres as a pivot for the organisation of regional discussions/decision-making processes simultaneously demands that rules be laid down to assure the participation of the educational authorities. Such participation must take place in

- decisions on the programme,
- decisions about personnel,
- the transfer of planning concepts into classroom practice.

In this context further differentiated approaches to these views of institutionalisation seem impossible to assess at this point in time; only at the end of the experimental period can new parameters be laid down through the preparation of a pilot scheme by the regional education office, and the foundation of a Hesse Institute for Educational Planning and School Development. The way in which the effects of these new moves will play themselves out cannot be predicted at the moment.

## 7. CONCLUSIONS

The core of the Hesse concept is the intimate connection between the work of curricular development and training based on the school. As far as the aspect of training is concerned, there is a strong impression that teachers are not sufficiently qualified to put new curricula into classroom practice. At the same time it appears clear from the findings already achieved in Hesse that the development of new curricula is impossible without teacher participation.

The foundations of this double hypothesis have attracted a great deal of expert controversy over the last few years in the Federal Republic,(1) and none of the arguments put forward has so far definitely been disproved. This goes particularly for the following assertions:

- the effectiveness of new teaching aims and methods is decisively dependent on the identification of the teacher with them. Such identification, when it takes place at all, is conditional on active participation by the teacher in the development work.
- Social changes in all areas of a modern industrial society have by now picked up such speed that the traditional approach to curriculum development has been left far behind. The need is to organise a process of putting the individual teacher in a position where he can work co-operatively and participatively on development and use of new proposals.

The evidence for this and other basic factors of school-based curriculum development cannot alter the nature of the difficulties and problems of all other attempts to lay a foundation of educational change in the Federal Republic. One of the most visible difficulties, also in Hesse, is the limitation of personnel and cash.

Teachers, experts and members of the educational administration are participating in training and development work without any material compensation whatsoever, either in the form of money, or more importantly, in a reduction of their working hours.

- The possibility of expanding or setting up workshops or seminars lasting over several days is often blocked by lack of finance, and even more often by the work overload of potential participants.
- Innovative classroom approaches are mainly based on voluntary individual commitment, and as a result - even when they are being pushed politically - remain non-obligatory from the point of view of effectiveness. This means that only a limited proportion of teachers can be reached to carry out this kind of activity (apparently no more than 20 per cent).
- Co-operative planning and development work in Hesse, as elsewhere, does not mean co-operative practice (team-teaching is very much an exceptional event).

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1) K. Frey and others (ed.): Curriculum Handbuch, München-Zürich, 1975, Vol. 3, Chap. X, pp. 159 ff.

S. Gerbaulet u.a.: Schulnahe Curriculum-Entwicklung. Ein Vorschlag zur Errichtung regionaler pädagogischer Zentren mit Analysen über Innovationsprobleme in den USA, England und Schweden. Eine Denkschrift. Stuttgart 1972.

- The various radical alterations in teacher training in Hesse (from training seminars, to Colleges of Education to full university courses) have created in the schools cheek-by-jowl groups of teachers with different training, and coming from different generations. This raises serious problems for the creation of school-based development work designed to cover all types of teachers in all types of schools.

Circumstances permitting, these problems can be resolved within a foreseeable future, but there are other major stumbling blocks to consider:

- Measured by genuine scientific standards, the material produced by school-based development work, even when experts have had a hand in its development, remains at a dilettante level.
- Without counting technocratic concepts such as the teacher-proof curriculum and other unsolved difficulties, material developed within the school can only be adopted by teacher groups not taking part in the development work if the development process can be completed, at least in part, by the uncommitted teachers taking over the material.
- Participation in the sense of linkage concepts brings together groups of people with very different general experience and levels of competence, ultimately divided by questions of social prestige. This situation normally sets up communications barriers as a result of the steep gradient of prestige and expertise. Even when the resultant situation is thematised much experience demonstrates that this changes little in the dominant communications structure.
- The relative autonomy that is an integral factor of development groups working with the concept of school-based curriculum development, clashes with the hierarchical nature of the educational authorities in the Federal Republic and in Hesse, whose own responsibility is legitimised by the parliamentary answerability of culture ministers for everything that takes place in the schools.

As long as curriculum development in Hesse remains faithful to the aims as laid down at the outset, it is in the opinion of the writers necessary, in spite of the difficulties and the variability of results so far, to hold fast to the basic concept of school-based curriculum development. Though there are many other imaginable and desirable alternatives, almost none of them offers any hope of realisation.

## 8. PERSPECTIVES FOR DEVELOPMENT

An assessment of current prospects for development in Hesse must start from the point that curriculum development within the state has to cope with special structural aspects and problems. It is necessary for an understanding of the following points to recall that in Hesse, as in all other states of the Federal Republic, the state school system is the responsibility of the government. Thus, the executive ultimately controlled by parliament is nominally responsible for decisions about the aims and content of teaching (the curriculum).

The escalation of the controversy over Hesse's curricular outlines into a social conflict has hammered it home to the executive and the parties composing it that in the current climate of internal politics responsibilities can no longer be brushed off by references to innovation strategy and basic democracy: statements about putting the participation of the individuals concerned at the centre of a new democratic understanding are no longer being honoured.

These experiences have strengthened the tendency towards a hierarchically organised control of curriculum development, in the sense of its return to the hands of a classical bureaucracy. These moves are always based on the arguments for a situation in which all pupils within an age cohort have comparable teaching and learning opportunities, irrespective of their type of school or place of residence - something which can only be achieved through centrally organised and controlled frames of action.

This tends towards a narrowing of the sphere of action for school-based curriculum development, particularly when - as now in the Federal Republic - the shortage of places in further and higher education prevents a large number of students from taking up further studies for a career to which their school-leaving qualifications formally entitle them (numerus clausus). The decisions about applicants' acceptance being made according to the average of their school-leaving certificates in turn demands the co-ordination of both content and an acceptance of common criteria at both state and federal level.

On the other hand, these factors operating on current practice within the curriculum as outlined in the above premisses by no means obviate the possibility of innovation in the classroom. But for a total conception of the curriculum one can currently find no model acceptable to everybody which can combine without contradictions the politico-economic legitimisation of state-organised curriculum development with the basic democracy it could offer, or even the socio-technological aspects it claims (the need for the teacher to identify with the aims of school reform).

The question of the institutionalisation of this contradiction is one of the most significant aspects of the current planning discussion in Hesse about the future organisation of curriculum development. The way the argument is currently moving seems to indicate a considerable increase in a central capacity for organising curriculum development. Thus in Hesse, with the creation of the central Institute for Educational Planning and School Development, an organisation is being created which is unequivocally an arm of the Hesse Ministry of Culture, designed to produce the conditions for the central control and co-ordination of development work. Simultaneously, for the first time in Hesse, teachers and experts will be organising curriculum development at a central level (aspect of professionalisation).

The relation of the regional centres to this new institute is not yet clear. The project group running the pilot scheme has opted for an organisational separation. Only under these conditions does it seem possible to apply school-based curriculum development as the organised participation of the teachers. The organisational capacity of the regional centres should be capable of providing enough teachers to offer a genuine chance of taking over the position of the professional agency personnel at the central level. One important aspect in this context is that the regional centres should be able to participate in the qualifications and training process. The regional centres are in fact moving closer institutionally to central teacher refresher training (Hesse Institute for Teacher Training).

In addition, the central teacher training establishment in Hesse, unlike the Curriculum Institute (HIBS), lays down by statute that teachers' representatives have a powerful voice in the decisions on programmes. On its central board the school administration disposes of only a third of the votes, the others going to teachers and university representatives.)

It is apparent that this attempt at a solution, balancing out an organisation of central development interests with an organisation of school-based development interests, will not resolve the essential contradictions outlined above. A bridging of the gap between both levels of curriculum development in the sense of the so-called linkage-concept(1) will thus give considerable weight to organising modalities of decision-making and the resolution of conflicts.

The functioning of this type of joint system, with a continuous dynamic interplay between legitimisations drawn from both theory and practice, is ultimately entirely dependent on how much social interest there is in the idea of innovation in the life of the school.

1) R.G. Havelock: Planning for Innovation through Dissemination and Utilisation of Knowledge. Centre of Research on Utilisation of Scientific Knowledge - Institute of Social Research (University of Michigan), 1974.
For a discussion in German of the linkage-concept see: U. Hameyer: Perspektiven der Organisationsreform von Bildungsplanung und Curriculum-Entwicklung, in N. Frey and others (ed.): Curriculum Handbuch, München-Zürich Vol. I, pp. 279 ff.

Part III

# EVALUATING THE COST OF SCHOOL-BASED CURRICULUM DEVELOPMENT

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## 1. INTRODUCTION

Costing in educational matters has for too long been regarded as a data gathering exercise - a process whereby various sums of money are added together to determine the cost of something. Usually, little thought is given to the premises and underlying assumptions that together support the notion of cost. Costing, in education, is now probably somewhere near the stage that evaluation had reached in the 1940s and 1950s. It was assumed then that educational outcomes could be unambiguously identified and accurately measured. It is still assumed that cost can be similarly dealt with. It will be argued here that a costing exercise involves conceptual and practical difficulties which in their complexity sometimes rival even the most intractable of the educational evaluator's problems. The title of this chapter, 'Evaluating the Cost', was accordingly chosen to draw attention to this similarity.

Costing is generally regarded as the sphere of the economist or accountant. Indeed both professions have devoted much of their attention to the subject and have developed a language and methodology suited to the expression and management of costs. The idea of resource cost, opportunity cost, fixed and variable costs, unit costs, etc. (all of which will be considered later) have been developed in response to the needs of those seeking information upon which to base their decisions in industry and commerce. The idea that education might have special needs in connection with costs is a more recent development. At first it was largely a statistical exercise with some supporting analysis.(1) Later it became much more analytic and comparative in nature.(1,2,3)

Costing as an important element of educational decision-making has also been demonstrated.(4) Recently the management of costs has been the focus of attention.(5) Still, however, some of the deeper conceptual problems of cost in relation to education have not been touched upon and the preceding chapters in the present report provide interesting examples of how difficult it is to identify and communicate the cost of the particular projects and programmes under

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1) J. Vaizey, The Costs of Education, Allen & Unwin, London, 1958.

2) J. Vaizey and J. Sheehan, Resources for Education, Allen & Unwin, London, 1968.

3) J. Vaizey, K. Norris, J. Sheehan, P. Lynch and M.P. Leite, The Political Economy of Education, London, Duckworth, 1972.

4) OECD, Investment in Education in Ireland, Directorate of Scientific Affairs, OECD, Paris, 1966.

5) P. Coombs and J. Hallak, Managing Educational Costs. UNESCO and IIEP. OUP 1972.

review. Economic theory and practice can certainly take us some way towards improving matters and these provide a good starting point. However, it is important to take only what is necessary and relevant from them and then to explore other ideas, many of them having little to do with economics or accountancy, in an attempt to come to grips with the nature of cost in the present context.

## 2. THE NOTION OF COST

The cost of an exercise is normally perceived in terms of the monetary value attributable to the resources used in its performance. Economists have increased our understanding of the matter by developing the notion of 'opportunity cost'. This provides an important means of conceptualising the 'real' cost, as distinct from the purely financial or 'book' cost, of an exercise. It is based upon the assumption that in most 'communities' the overall resources available are limited, and therefore, in order to satisfy one need, another must be left unsatisfied. In other words, the cost of using something in a particular venture is the benefit foregone (or the opportunity lost) by not devoting it to its best alternative use. In determining opportunity cost the economist is not concerned with who pays for the resources, nor in many cases the price paid (which may, in certain circumstances, have been taxed or subsidised) but with the 'real' value of the opportunity foregone.

Basically, therefore, the application of the principle of opportunity cost will determine the value of <u>all</u> resources used wherever the burden of cost falls. It is the overall view and, in the economic sense, is the only 'real' cost. But, sound as this notion is in theory, it raises certain problems for the cost evaluator. In the first place, not everyone is interested in the overall cost: different audiences have different requirements and, for some, a very much more limited or specific form of costing is the more appropriate.(1) In the second place, we meet a set of issues related to the idea of opportunity cost. These might be termed boundary, identification, and pricing problems and present each a number of characteristics.

### 1. <u>Boundaries</u>

The difficulty here is that the focus of a costing study is nearly always a social process. It may take place in a building, such as a school, but its ramifications usually extend far beyond its walls. If we seek overall cost we find ourselves chasing ripples

1) This is dealt with more fully in Section 4, p. 247.

in an ever-enlarging pond. Furthermore, they are two-dimensional ripples which pass through time and space. A typical costing study is no more than a snapshot. Its margins may appear clearly defined but it shows only part of a scene that, in reality, is continually changing.

The time dimension is fairly easily understood. Changes will obviously take place as a programme expands or shrinks, as different methods are applied which increase or reduce efficiency, as costs of inputs vary in relation to each other or, in a slightly different category, as inflation distorts the picture. It is in order to cope with these kinds of change that techniques such as estimating, budgeting and planning have been introduced. They attempt to project the picture into the future and the more uncertain the future the more unreliable these tools become.

The space dimension is less easily dealt with. A unit such as a school, a local authority, a programme or a project, is normally allocated its budget or resources by a larger administrative body. Usually it is a sub-system in a larger system (as a school is part of a local authority, district or canton) and as such it often calls upon resources provided by the larger system which do not enter into its own budgetary accounts. Such resources might include administration costs or generally shared centralised facilities. Thus the cost of educating a child includes not only direct teaching costs but also overhead costs within the school itself, plus a share of administrative costs in a region, and a further share of central government costs. Certainly the ripples become smaller as they expand outwards and eventually they can be ignored. There are, however, certain costs much nearer to home that are generally, but should not be, overlooked. This occurs because such costs are usually difficult to specify.

## 2. Identification

Most educational costs are fairly easily recognised. Teachers, clerical workers in schools, heating and lighting in educational buildings, etc. are directly concerned with the educational process. But there is a very permeable boundary between education and society, and the two are strictly inseparable. School meals are often included in an educational budget but eating is only indirectly an educational activity. The difficulty is compounded as attempts are made to open up the educational process and to bring the school back into the community. The community not only pays attention to what is going on in the school, it also becomes involved and people give up their time. It is perhaps a cliché that time costs money but it is one that is supported by the norms of industrial society, whether it leans to 'left' or to 'right'. The debate as to whether a husband

or wife should be paid for domestic duties in the home is one that occupies the mind of some economists and is of some importance for the meaning and calculation of Gross National Product. Thus parents, those in factories, shops, offices, trade unions and so on, who give some of their time to planning and organising school activities, are in a (true opportunity cost) sense part of the resources and therefore part of the cost of education. The argument then becomes whether or not these people devote their time voluntarily or not and whether their involvement can be considered work or leisure. We thus try to bring the two slippery concepts 'work' and 'education' together and from the interface attempt to extract a cost formula that is meaningful and generally transferable. It should be clear now why it is that we are discussing the evaluation of cost and not simply the cost of the various projects. The case studies considered in previous chapters are full of examples to which the above problems apply and these will be discussed later. It might, however, be worth speculating by way of illustration at this point on whether, if the French Ten Per Cent experiment had prospered and expanded, the time lost in industry and agriculture as a result of numerous and repeated visitations by groups of school children should count as an educational cost.

3. Pricing and quality

A normal procedure for most accounting systems is to adopt market prices for costing purposes. It is therefore necessary, in many cases, to look behind the prices in order to obtain a more consistent picture of the resources actually used. Without consistency, it is not possible to compare alternative projects or programmes over a period of time. The determination of the nature and quality of certain resources, particularly teachers and capital inputs, have often proved to be major areas of uncertainty in establishing cost.

In most European countries teachers' salaries are affected by, but not completely determined by, market forces. They are administered prices negotiated through especially created machinery involving government or regional authorities and representatives of teachers' organisations. Their 'price', therefore, does not necessarily reflect, in terms of opportunity cost, either their contribution or their quality. Teachers' salaries relative to average salaries generally declined between 1920 and 1970(1) but from this it is not possible to infer that either their quality or their relative productivity has declined.

Attempts to compare teachers' salaries over time are further complicated by price inflation. This applies to all educational

1) J. Vaizey, K. Norris, J. Sheehan, P. Lynch and M.P. Leite, The Political Economy of Education, London, Duckworth 1972.

inputs, but because teachers' salaries normally account for about 60-70 per cent of current educational expenditure they tend to magnify such changes. As salaries have not moved in line with other prices a special index is required to provide a constant measure of input, but even this must be treated with caution in view of changes in the age structure and qualifications of the teaching force.

With regard to capital expenditure, the problem is one of the possible use of several different measures of capital input and the resulting inconsistencies that can arise over time or when comparing programmes.(1) The stated cost of capital inputs must therefore be examined very carefully before any comparison can be made between programmes. Over time, it is also necessary to be aware of possible changes in the quality and productivity of the equipment concerned. Whereas, in small scale educational developments involving a comparatively small proportion of capital expenditure, variations as mentioned above will not have a profound effect on the overall calculation of costs, the position is more serious for larger programmes. The calculation of the average cost of educating a child, for instance, could be affected by as much as 20-30 per cent according to the procedure adopted.

Costing, particularly if we continue to think about it in traditional terms, is clearly not an exercise that lends itself easily to educational ventures of the kind discussed in the various case studies. We should therefore now turn our attention to these and consider some of the issues they raise in relation to a costing exercise.

## 3. EVALUATING THE COST OF SCHOOL-BASED CURRICULUM DEVELOPMENT

As the case studies in Part II have shown, a central stimulus has generally been applied to the school system in order to produce local action. The stimulus, normally in the form of a funded project, has sought to create involvement at the district or school level. Thus central resources and energy are dispersed, sometimes widely,

1) Capital is used here to mean buildings, furniture and equipment which contribute to the educational process over a period of years (in economic terms, 'fixed capital'). If this is to be considered alongside and aggregated with recurrent expenditure such as teachers' salaries or consumable materials, it is necessary to express expenditure in terms of an annual payment spread over a number of years. But there are various ways of determining (amortising) capital in order to arrive at an annual figure. Generally, it is necessary to estimate the life of capital equipment and estimates can vary considerably. Spreading the cost of capital equipment over a number of years also involves discounting the capital sum at a chosen interest rate. How this rate should be selected is again a matter on which there is no consensus. In addition, there is no agreed procedure as to how the capital should be valued: it is possible to use its original cost, its present market value, or its replacement cost, and these are all adopted from time to time.

sometimes narrowly, to be used as a basis for developments at the periphery. If many developments are stimulated in this way the central funds are spread thinly and can provide only part of the cost. If only one or two developments are sponsored they can be fairly fully supported, but this leaves the remainder of the system untouched.

This has a number of implications from a costing standpoint.

1. The budget

This is easily identifiable, and generally whenever cost is referred to in a case study it relates to the total amount of funding, its origins, and perhaps how it is used geographically and through time. Thus, for instance:

> The Swiss (Zug) experiment received 340,000 Swiss francs over 6 years and this is divided in the study into 5 categories showing who paid what and roughly how the money was used.
> The Austrian project, so far, has cost 20 million Austrian Schillings. Annual expenditure is approximately 5 million AUS of which 80 per cent is devoted to teachers' salaries.

As a rule information of this kind is limited to one or two paragraphs. Occasionally indirect references to cost are made elsewhere in the reports but generally only a very rough picture emerges which is mainly concerned with indicating the scale of the operation. The reader might according to his or her own belief remain unimpressed that such a small amount should be expended on such an important matter or become exasperated that such large sums should be 'thrown away on a hopeless cause'. There is seldom sufficient background, breakdown, details or projections to provide adequate information for those really interested in the cost to judge what is actually happening.

2. Teachers' time and rewards

The raison d'être of SBCD is that it should call upon the active involvement of teachers in the process of change. Involvement means not only time and energy but also a disruption of the status quo, and a need to disturb the balance of activities built up by a teacher over a period of time. Involvement in SBCD is therefore not just 'time out' to join in discussions with colleagues, to work out aims and objectives, or to produce materials; it is often a continuing commitment in the school and the classroom to make things work and to hold out against natural 'reactionary' pressures. Is it worth it?

The answer is that, for a few dedicated teachers, it is. Their reward comes from the satisfaction to be gained from improving their professionalism. Ultimately they may gain promotion but this is probably a secondary consideration to the real innovators. As the

Hesse project suggests, it is doubtful whether more than 20 per cent of teachers come within this category. The same study makes the important statement (p.231): 'Teachers, experts and members of the educational administration are participating in training and development work without any material compensation whatsoever, either in the form of money or, more importantly, in a reduction of their working hours.'

This is a crucial issue and it affects the evaluation of cost in several ways. There are basically three possibilities: firstly, all time committed to the project is release time from normal duties; secondly, involvement in development work is entirely over and above normal working time; thirdly, and most likely, there will be a mixture of the first and second procedures.

It is rare to find that teachers are released to the full extent of their commitment. Attempts are sometimes made to do this but the nature of development work generally ensures that there is an extra burden which has to be borne by the teacher in what is otherwise regarded as leisure time. Nevertheless, it is helpful and important that the teacher's normal work is done by a replacement during his or her absence during school hours. Where this is done there is an immediate and obvious cost implication, i.e. payment to the replacement teacher.

But even this is not as simple as it seems, as the Austrian study has shown. There, the development activity counts as half a teaching load. Substitutes taking over an absent teacher's class receive extra pay (presumably on a pro rata basis) whilst the participating teacher keeps full pay and receives a travel and subsistence allowance whilst away from home.

The report continues (p.173): 'People involved in the project are as a rule highly qualified in their respective occupations and thus tend to be burdened with other duties, so that they cannot devote themselves as fully to the work as they might wish. Another effect is that it might take not one but two average people to replace a qualified and motivated project member; so that when replacement becomes necessary it becomes a major strain on the project. Legal restrictions make it impossible to compensate project members at a level comparable to other occupations requiring as much time; recruitment of project members has therefore remained a problem.'

This statement speaks for itself and it clearly points to the difficulties that can be created in a school or other organisation when key members are removed to undertake development work. To use an economic analogy - it is like expecting an industrial firm with severe liquidity problems to engage in a capital investment programme. Certainly the results of the investment may help later but the financial strain may be intolerable in the short run.

But what happens in the schools when good teachers are removed for varying amounts of time? The probability is that only their essential work is done and this to the minimally acceptable level. The committed teacher returns to face the task of not only catching up and putting things to rights, but also implementing the new ideas emerging from the project.

There is a cost involved in this but it cannot be priced. The extent to which the children suffer cannot be gauged. They may or may not catch up if they have fallen behind; no one can be sure. Colleagues will probably have to deal with some of the side effects, to pick up the loose ends, to help out with administrative or disciplinary matters, when the substitute teacher is unable to cope.

This hidden cost is much more in evidence when the teacher is not replaced at all. In these situations teaching colleagues are expected to close the ranks and to share the added burden. The strains can be heavy and this should be considered as a short-term rather than long-term possibility.

But what about the cost to the teachers who participate in the project? Financially they will not lose out but it is unlikely that they will gain anything either. But other costs to them may be more important. Encroachment into leisure time over a short period is tolerable; over a longer period it can lead to strains on health, domestic life, and general efficiency. It can also lead to disillusionment and possible dropout from the development work or perhaps teaching altogether. The case studies are full of statements relating to these pressures and possible ways of overcoming them, for example: 'Thus the testing of the planned objectives in the four experimental areas, and the continuing discussion round it, have shown that these objectives have imposed too heavy a demand on individual teachers and individual schools in the majority of cases.' (exacerbated by the further problem of teachers from outside the specialities and classes, employed to teach on a part-time basis. (Hesse study, p.198.) Or, 'Teachers, of course, must put in a great deal of extra work to make a week or half-week run smoothly... And the SNES said that the union's support would depend on a) the provision of additional resources (teaching posts, accommodation, equipment, finance); and b) agreement that the hours spent by teachers in "co-ordination" should count as part of their service.' French Ten Per Cent, p.124.

Teachers' involvement, as an extra over and above their normal school hours, is now becoming more rare and is generally resisted by teachers' organisations. Nevertheless, where it does occur it should, in some way, be noted in the costing study. A case study not referred to previously concerns the organisation of the Nuffield Mathematics (5-13) Project. This scheme involved a high proportion

of primary school teachers in in-service training to help them cope with the 'new maths'. Whereas some of the training was organised on a day release basis some local education authorities seemed unable to do this. In connection with one London borough the report states: 'It should be mentioned that extra time on the part of teachers was involved but it is extremely difficult to cost this in a meaningful way, particularly where training took place outside normal school hours. It is important to be aware of the fact, however, that in this instance the majority of the teachers involved spent, on average, 50 hours of their own time on local training schemes.' (Hewton, 1975.)

A statement of this kind is useful in that it enables the reader to appreciate roughly the kind of commitment called for. More will be said about the importance of descriptive information in Section 5.

3. Co-operation and community involvement

A key aim implicit in several of the case studies is the closer integration of the school and the community. Running alongside this in some of the reports is the notion of closer co-operation between schools and teachers' groups. In other words, the drive is towards an extroverted rather than an introverted system. It is hoped to reduce barriers, to make the educational process more public, to invite the participation of a wider group in discussion and decision-making.

The case studies have mainly described pilot experiments. If the procedures were to spread, however, a new (and hopefully more democratic) authority and decision-making structure would emerge. The cost implications are, however, considerable and the following statements are indicative of this.

The Zug study, p.139, states that 'the funding of the goals for the new school by way of various phases must, for the greater part, be described as very costly. The expenses of private school districts that cannot work with university centres are, for the most part, too high.' The Austrian study, p. 174, observes that 'funding of the project has been difficult from the start... Funds allocated in the federal budget have tended to remain nominally the same from one year to another, resulting in net cuts owing to inflation. It has therefore been necessary to find private sponsors (mainly banks) to share the cost of producing materials. It would not be acceptable, however, to have staff paid by sponsors, and this being by far the lion's share of total expenses, prospects for an expansion of the project in any way that would involve extra staff do not appear rosy.'

The dilemma presented by the emergence of an idea that proves successful on an experimental basis and the size of the financial commitment needed to expand it to the whole system has been called

by some commentators the 'rubber budget problem'. This is dealt with in Section 4 under the heading 'Estimates and projections'.

But why should costs be so high? Basically it is because co-operation and participation, in the economic sense, is costly. This is not to say that it may not have long-term social benefits (indeed, a great deal of faith is placed in the value of collaboration) but the immediate effect is one of a considerably increased time commitment on the part of many more people. Max Weber's notion of 'bureaucracy' has stood the test of time, not because of its ideological appeal but because of its 'rational' approach to the delegation of responsibility. Why, it implicitly asks, should several people be involved when one (expert) can do the work more quickly and efficiently? Education, particularly educational innovation, is turning away from this model, and with many good reasons, but it is now facing one of the consequences in the form of increased costs. Some of these are easily identifiable, others are less so.

The first involves an increase in the administration. A new structure is needed in order to create and support greater collaboration. Thus in Hesse, where in 1974/75 over 100 schools were working together on the experimental project, four regional centres were created to support them. Each has a director and secretary plus an annual operating budget and can call upon a total of 72 hours of assistance from local teachers. In addition, there is a central administrative team comprising three directors, two secretaries and a clerical officer. A steering committee (which, however, may not remain in existence after the pilot stage) involves seven more people. It is interesting to note, in connection with this new framework, that although it was set up in order to encourage collaboration between districts and schools there is some evidence that it may later be used to provide greater centralised control over curriculum development and teacher training. (Hesse study.)

Secondly, the principle of co-operation requires an increased flow of information between collaborators. Central or regional administration is increased to cope with this but the information has to be absorbed by the system and this requires more reading, committee work, conferences and general school administration. People seldom stop to count the additional cost of reprographics, stationery, postage, typing and travelling as well as time that this involves, but undoubtedly the overall sum is considerable.

The Austrian study (p.179) is of interest in connection with the communication problem. The authors comment as follows: 'The formation of a steering committee...has been suggested... In particular the flow of information could be improved by such a committee. So far, the school system at large has not received as much or as frequent information about the project as would seem desirable... A

journal in which some articles about the project were published did not reach many teachers... This information gap has been felt by the project management, but a solution feasible in terms of funds and manpower is not seen as yet.' In other words, the dissemination problem which troubles nearly all projects of this kind is recognised and, like most projects, the budget has not been planned to allow for this contingency.

The Austrian report continues, with regard to travel: 'A related difficulty is the concentration of the project in Vienna, thus excluding the participation of teachers from the remoter provinces.' This problem of travel leads to the third element in the increase in costs, namely, the additional cost of new (particularly extrovert) activities. The French study provides a prime example. In that experiment no special funds were set aside to implement the ministerial circular, but in the first year there were experiments in various forms of teaching, visits, outings, camps, surveys, project work, etc. 'Some factories have been submerged with parties of visiting school children, and it was just as expensive for rural children to get a glimpse of industry as for those in Paris, for example, to discover the countryside.' (p.114.)

Who pays for all of this? It seems that, in the French case, the cost was spread between parents (e.g. 'families were asked to pay one-third of the cost'), national agencies such as the Vercors National Park, the Youth and Sports Office, local authorities, schools and, in some cases, the teachers themselves helped out. Keeping track of contributions from varied sources is not a difficult exercise but it does require some careful pre-planning of the accounting and recording system which is to be used. A major problem is whether such contributions will continue once the initial enthusiasm has waned. The outlook is not entirely bright in this respect. If more substantial sponsors are sought, such as the banks in the Austrian experiment, there is always the objection that 'capitalistic' involvement in the 'democratic' educational process is an undesirable element. Knowing just when to draw the line is a difficult decision.

## 4. COSTING - ITS PURPOSE AND POSSIBILITIES

Scriven broke new ground in the field of educational evaluation by pointing to the fact that evaluation has various roles to play.(1) It is suggested here that the same may be said of costing and that we should, as a preliminary step to any study, consider what the purpose of an exercise is meant to be.

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1) M. Scriven, The Methodology of Evaluation. Perspectives of Curriculum Evaluation. Rand McNally, Chicago, 1967.

1. Classification

It will generally be found that costing studies fall into one of the following categories which are not mutually exclusive.

1. A feasibility study, undertaken to determine the short and longer run cost implications of a proposal, usually in order to establish whether or not it can be afforded (cost estimation).
2. A study of an ongoing scheme, which seeks to answer the question - how much is a particular programme costing? This may precede a decision on whether or not to continue, but it may also be designed to throw light on resource allocation with a view to improving 'cost effectiveness' (cost estimation and allocation).
3. A comparative study, providing information on the cost of a proposal in relation to an existing scheme or possible alternatives, often with the intention of choosing among them (cost estimation, cost allocation and opportunity cost).
4. A persuasive strategy, convincing others that the adoption or continuance of a particular innovation is, or is not, desirable. Studies of this nature may take on political overtones and what is left out is often more important than what is included (evaluation - not necessarily an objective cost estimation).

There are several audiences to whom the various studies might be addressed, and they will tend to have different information requirements according to their degree of involvement in the programme or project under review. At least four groups can be identified:

a) Participants. Those to whom the results are directly relevant. These will normally be personnel, managing, or generally engaged in, the particular teaching system under review.
b) Administrators. Those who, while not committed to a particular programme, are sufficiently interested in it to seek cost data on the financial implications of adoption, continuation or alternatives.
c) Interested specialists. Those who seek information for their own work, such as curriculum developers, evaluators, economists and accountants. They are least involved in directly operating the scheme and require information on costs for different reasons. They may hope, for instance, through careful cost analysis, to suggest ways of improving the 'effectiveness' of teaching systems or they may be concerned to increase the amount and improve the quality of costing information generally available.

d) The general readers. Those who require a costing picture as one dimension of a broader case study describing an educational programme of innovation.

Group (a) will normally require a very detailed analysis of costs, specifically applicable to their own situation. Group (b), in contrast, will generally seek a feasibility study providing general estimates of probable expenditure or a comparative analysis illustrating the cost implication of various alternatives. In neither case need the costs be as detailed or as specific as in the first instance although it is possible that a more accurate study may later be called for.

Group (c) will normally require information of broad applicability sometimes accompanied by specific and detailed cost studies that illustrate particular costing principles. Group (d) is in some ways the most difficult. The information provided has to be sufficient to provide a background and perspective which the reader can relate to his or her own situation; suggest answers to some of broader questions related to cost of the kind discussed in previous sections; indicate generally how the scheme was financed and how resources were used; indicate the implications for transferability and extension but at the same time not be so detailed as to lose the reader in financial technicalities.

The importance of clarifying the nature of the exercise in terms of its purpose and intended audience is worth emphasising. It is a first step in overcoming the boundary problem referred to in Section 2.1. The space and time dimensions can to a large extent be circumscribed. The type of audience will indicate how many 'ripples' to include. Take, as an example, a feasibility study required by the participants in a particular scheme. This might be a school trying out a new method of teaching. The cost required is the cost to that school and this would normally include only those resources it calls upon from its own allocation or budget. In addition it may also use resources provided by the larger system of which it forms part, but if the cost of these (e.g. centralised audio-visual services) are not allocated to the school then they are (to the school) in the nature of free goods and although they might be mentioned they would not form an important part of the study. This would not be the case for, say, the administrator or economist who would be looking for the overall cost.

If the audience and the purpose is kept in mind both in planning and presenting the study, other solutions to some of the basic costing problems begin to suggest themselves.

## 2. Price or description?

A cost arises from the use of a 'resource' and it should always be considered whether a more useful 'cost' picture could be presented by simply providing a clear description of the resource commitment involved. It is, admittedly, useful to have all costs expressed in monetary terms for this permits summation and various other mathematical operations to be performed on the data. However, the use of resources is not always easily and consistently translated in this way and, where great efforts are made to do so, there is a danger that descriptive accuracy may be forfeited to gain statistical nicety. Neither is it always clear why so much weight is placed upon the monetary expression of values in these circumstances. Costing studies are often required by outsiders who seek to understand the experience of others in order to help them in their own situations. This will normally involve them in looking behind the financial statement, at the actual resources used in order to fit the information into their own particular circumstances. This can be illustrated by a typical situation. If the use of certain audio-visual learning material is dependent upon specific playback facilities then it does not help an interested outsider very much to know that a charge of £x was made to the user department. The information that is really important to him is that, for instance, a 16 mm. film projector was required for three hours every week for one term. The observer can then check the possibilities and costs within his own institution.

A costing study might therefore in some circumstances take the form of a report which combines both descriptive and financial data but possibly leaning towards the former. Perhaps no overall, rounded, monetary cost will emerge but it can be argued that this has a strong point in its favour in that it will prevent snap judgements and false comparisons being made without a reasonable and full understanding of the real resource implications.

## 3. Analysing and presenting the data

Those managing a scheme and responsible for financing it are inevitably concerned with the 'total cost'. A project must keep within its budget and all items of expenditure will therefore be carefully recorded. But summation is not always as straightforward as it might seem and in any case it is only a part of a cost analysis. Some of the more important matters related to total cost and to more extensive analysis are considered here.

Single and joint costs

The allocation of the cost of a particular resource to a number of different projects or programmes that use it is a problem which regularly arises. The resource might be a centralised service, or a teacher who teaches on several courses, or equipment and learning materials used for a number of different programmes. The cost of these has to be shared if the courses, programmes or projects are to be separately analysed.

Costs can be allocated in several ways. The simplest is to divide the cost of the resource equally - an appropriate procedure if each course (or programme) has a reasonably similar share of the service the resource provides. Alternatively, costs might be shared on the basis of hours of use by each course or by the numbers of students served. A more complex procedure involves allocating costs more precisely according to the actual demands made by each course on the service. This requires careful recording of all resources (staff, time, materials, and in some instances, overheads) provided to each user.

It is important, however, to consider whether the result is really worth the effort. Unless there is some particular reason why a high degree of accuracy is required, the less difficult procedures are often to be preferred.

Total cost and annual cost

The difficulty in interpreting total cost stems from the fact that recurrent costs (such as salaries) may be added to capital costs (such as equipment). The items are different in kind and present accounting problems due to their differing life spans. As virtually all educational accounting systems operate on an annual basis it is more appropriate to calculate the amount of expenditure in any given year. This means spreading capital cost over a period that corresponds to the life of the equipment.(1) It is not always easy to estimate the life of a piece of capital and an informed guess may be all that is possible. Nevertheless it is important, in presenting the data, to specify clearly the period of time used.

Once capital has been dealt with in this way it is possible to arrive at a total annual cost and this is a more useful piece of information which is amenable to further analysis.

1) The procedure, sometimes called amortization, is fairly straightforward and tables are available to simplify the process. The important point is that amortization incorporates an 'interest charge' into the annual cost. In other words it is recognised that £1000 paid for a piece of equipment in 1976 which will last until 1986 is not the same as spending £100 per year for the next 10 years. The term amortization is sometimes used differently by accountants and refers to the procedures used only when the exact life of the asset is known.

Unit costs

Annual costs, even if divided into separate amounts that show the sum spent on salaries, overheads, materials, travelling, etc. provide only a limited understanding of 'extent' of expenditure. There is a need to indicate the relative magnitude of cost and this is normally done by calculating unit costs.

A unit may represent one of several aspects of the educational system on which money is expended via the project. It may simply be a smaller unit of time such as a term, week, hour, etc., or it may relate to students, to space, to subjects, to departments, etc., or combinations of these, for example, cost per student/subject.

Perhaps the most common measure is cost per student year (or in the case of a project that seeks to introduce an innovation the additional cost per student year) which is derived simply by dividing the total (additional) annual cost by the number of students involved. The expression is a useful one in that it allows the cost of a new programme to be seen in perspective against another known measure, such as an annual budgetary allowance per student.

4. Estimates and projections

Annual costs and unit costs derived from an experimental situation will normally be used as a basis for predicting the extent of the commitment involved if the innovation is adopted on a wider basis. But a straightforward extrapolation is usually not sensible, and when this is done the results will generally appear so heavy that the decision will almost certainly be against continuation and extension. The costing study should therefore always attempt to separate 'introductory' and 'continuing' costs. The former can be regarded as a research and development phase which in most circumstances will be more expensive due to the exploratory nature of the work. Coombs and Hallak emphasise this point which they regard as crucial for strategic reasons when dealing with innovations: 'It is generally true that the cost per student during the starting phase of a major educational experiment or innovation is abnormally high. If these costs are mistakenly regarded as an indicator of future costs, the experiment might be thrown out on the grounds of not being economically feasible. It is essential, therefore, to develop two sets of cost projections, the first applying to the developmental period and the second showing the anticipated 'normal' costs beyond this period. This serves two important purposes: it prevents initial prejudice against the innovation, but it also guards against wishful thinking, for the fact may be that the longer-range "normal" costs, though lower than the initial costs, may still be too high to be afforded.'(1)

1) P. Coombs and J. Hallak, Managing Educational Costs. UNESCO and IIEP. OUP, 1972.

Why should initial and continuing costs differ?

There are a number of reasons that account for this, quite apart from the research element in the initial costs. The cost attributed to a project should normally include all expenditures on resources actually used by the project. This will include administrative and secretarial expenses, the salaries of teachers seconded to the project, premises, the cost of communication and travelling, etc. All of these may be essential to the functioning of the project but once the ideas or materials developed by the team are disseminated to schools, many of the initial costs may not arise or may arise in more limited form. The existing facilities of the school, such as premises, administration, secretarial services, reprography, audio-visual services, etc. may be capable of more extensive use. Slack will be taken up, and whereas there may be some cost it could well be in the nature of a marginal cost and not a total cost as experienced by the project. Whether there might be some slack in teaching time which could be utilised is another more dubious matter and one that was considered in an earlier section.

The other potential difference between initial costs and continuing costs is the case of the production of learning materials. Economics to be gained on printing runs can be substantial and the unit cost of printing 10,000 or more copies is relatively small compared to the unit cost of printing only a few hundred. Not only are normal economies of scale achieved but also more efficient printing methods can be used for longer runs. It seems possible that the materials produced in connection with the Austrian study will remain on a relatively small scale (200 to 1,500. See p.168) and will therefore not be able to realise this kind of economy.

The cost evaluator, whilst always attempting to remain unbiased will be aware of the possible differences that exist between initial and continuing costs. The projection of costs to a more extensive situation is therefore one which involves a degree of sensitivity. Estimating is a difficult task and the cost analyst takes upon himself a responsibility first to the project team for seeing that their 'cost' case is put fairly, mentioning all possible saving, and secondly to the funding agency for presenting them with information of a sufficiently detailed and relevant kind that will enable them fully to appreciate the limits of the potential financial commitment.

5. Planning and integrating the analysis

The cost evaluator's job can be much simplified if it is recognised from the start that a detailed costing study will be required. Unlike some educational evaluators, the cost analyst would not generally seek to be involved throughout the course of the project but would expect to be consulted in the early stages.

The project members should have the opportunity to discuss with the analyst the purpose(s) of the study. An explanation of many of the matters discussed in this chapter should prove helpful to those who will in any way be involved in providing information for the costing study.

Early negotiations, which should also involve the educational evaluator, are necessary to establish various points, namely:

i) The intended audience(s).

ii) The emphasis that is to be given to cost as part of the overall evaluation.

iii) The amount of detail necessary.

iv) The way in which the detail can most appropriately be presented - for instance the kind of headings under which expenditure should be shown. At a basic level salaries, office expenditure, travelling and so forth will be summated separately. It may well be, however, that the project itself is divided into separate activities e.g. operations in different geographical areas, or with different schools or perhaps in carrying out different kinds of experiments. If these are to be costed separately then a 'logging' system is necessary from the start. Co-ordinators may find it necessary to organise a diary exercise in which members of the team note the time spent on separate activities. Similarly, the accounting system used for the allocation of other resources will require a coding system capable of identifying separate areas within the overall programme. This is, of course, moving towards the idea of programme budgeting, at least as far as the costing side is concerned.

v) The way in which expenditure is described. As was made clear earlier, brief statements of expenditure followed by a monetary sum can be misleading. The use of resources should, whenever possible, be explained by a full description of the amount, type and time commitment of the various resources involved. It may well be that a monetary cost cannot be attached (as perhaps in the case of shared resources, voluntary time, etc.) and a clear description becomes even more important.

vi) Distinctions between initial and continuing costs. Those responsible for collecting cost data should be alerted to this distinction. 'One off' expenditures, i.e. those which arise because of the experimental nature of the project and which would not be likely to arise if the scheme was to be extended, should be noted separately.

vii) Where projects are financed from various sources it is useful to keep separate records for each of these with some explanation as to how and why money was received from the agencies concerned. This kind of information is useful when decisions have to be made about the possibility of extending the project.

There are other more detailed points that might be included here but sufficient has been said already to indicate the importance of planning and integrating the costing study at an early stage in the project's life.

## 5. CONTROL AND ACCOUNTABILITY

Most of the case studies refer to the origins of the funds for the various activities, but two of them discuss the implications of this for the functioning of the projects. The Austrian study indicates the potential importance of the control element in external funding. When discussing the role of commercial banks in sponsoring part of the work it points out that 'it would not be acceptable, however, to have staff paid by sponsors'. This suggests an understanding that the origin of the funding can have some effect on the workings of the projects. Generally, however, the case studies do not question the vital matter of central government financing on the overall pattern and day-by-day functioning of the more localised projects. This is important but, in the absence of any specific information, it is necessary to consider the matter in general terms. A discussion of this kind inevitably focuses on the universal dilemma inherent in all decisions concerning the type of funding most appropriate to particular situations: it relates to the matter of autonomy versus accountability.

A central argument in favour of school-based curriculum development is that active interest and initiative in development work is more effectively stimulated where decisions are left to local participants. Most of the case studies have described and analysed approaches made in this direction. The degree of freedom has obviously varied from study to study but, in general, teachers have been encouraged to have their say and use their own initiative in trying out new ideas. Backing this 'freedom' however there have generally been government funds channelled, in one way or another, to the project groups. Following experience in recent years there are certain general statements that can be made about government funding for development work. Firstly, it is less freely available than it has been hitherto. Secondly, it is much less certain to be boosted each year to allow for inflation. Thirdly, it is less certain to be continued in time

of economic stringency (a striking example of this was the curriculum development fund set aside by the University Grants Committee in Britain: this fund was recalled back into the main budget in 1974 before any money at all had been allocated). Fourthly, there are likely to be far more strings attached.

It is the last point that is important in the present context. The government department concerned will quite justifiably point to the fact that it is under pressure to establish that the community 'receives value for money'. The project will therefore be seen as accountable in some way for the use of funds. But this notion of accountability can clash with the idea of giving local teachers their head in order to improve their teaching and their courses. Some sort of compromise between the two aims has to be arrived at and it can take various forms.

Immediate control is normally vested in a project co-ordinator and executive team; but consider the somewhat unusual French Ten Per Cent experiment. Here, there was no co-ordination; schools were simply permitted 10 per cent of their normal teaching time in which to experiment. Head teachers were assumed to have responsibility for initiating activities but, possibly because there were no additional funding implications, no form of accountability was built into the scheme. In fact the opposite was true and the essences of freedom to innovate was generally stressed. But what is happening in the second year of the scheme? The following statement relating to one area is indicative: 'Furthermore, when teachers were asked their views on the "ten per cent" experiment, more than 70 per cent felt that interest in the experiment was "on the wane", or even "dying". 1975 confirmed the trend: the autumn term saw a general decline in "ten per cent" activities and the experiment seems to be at death's door.' (p.120) It seems that the absence of any form of control can lead to the decline of activity. At least this is how it can be interpreted if viewed from the centre.

1. Reporting back and evaluation

Persons charged with responsibility for developing and carrying out plans will normally be assisted by a consultative committee of some kind to whom they will report. Reporting back is often regarded as important, but if this is required at regular intervals it can add to the administrative load and thereby indirectly increase the cost of a project. Who does the evaluation? If this is the responsibility of the project team then part of their time must be devoted to monitoring activities and, whereas this is now fairly well accepted as a crucial part of the curriculum development process, it is seldom actually allowed for in the budget. This usually means that it receives inadequate attention or that extra funds have to be

sought (often not forthcoming) in order to finance it. In any case it might be maintained that this is one activity that should be removed from the local group if decisions to continue or expand the project are to be based upon the evaluation. Some might argue that an evaluator, having regular and continuing contacts with the experimenting team, might find it difficult to produce evidence of sufficient force to bring to an end an 'unsuccessful' experiment. Whether this might be easier for an external evaluator funded from a separate source is debatable, but some weight is normally given to the view that evaluation should be maintained separately when extensive future funding is dependent upon it. It is interesting to note in this connection that the Avon Resources for Learning Scheme (a regionally based unit supported by one local authority in Britain) which is described elsewhere in this document (U.K. study, p. 81) is being evaluated by a team based at Bristol University. This team is financed by a grant from the Department of Education and Science and the evaluators are responsible for reporting directly to them.

2. Budgetary control

Greater or lesser control can also be applied by the funding body through various budgetary devices. Basically, freedom to manoeuvre stems from the degree of budgetary virement permitted. Estimates submitted by a school, an experimental team or project will normally be required under various heads such as teachers' salaries, clerical assistance, materials, travel, conferences etc. The central funding agency may seek to exercise control over the activities of the school or project by agreeing to meet bills only up to the estimated sum under each heading. Virement, however, will permit transfer of funds from one heading to another once the overall amount has been agreed. The former method is generally thought to dampen experimentation and the latter to encourage it. For some years the Inner London Education Authority has allowed a limited form of virement to its schools and the evidence seems to suggest that this freedom (which incidentally does not cost the Authority any more) has helped those schools wishing to innovate to purchase equipment or specialised help which would not have been possible under more tightly controlled schemes.

Other possibilities that restrict the freedom of the locally based but centrally financed innovator are instalment plans and matched funding. The former is a useful device where the central authority is not prepared to make too large a commitment to an experiment. It will normally seek to judge progress each year and on the evidence presented to it make either annual or bi-annual payments. Whereas this may appear helpful to the funding agency it can present considerable difficulties for the project which has to face regular

periods of uncertainty. This must inevitably affect its planning, which cannot be long-term, and also in some circumstances the quality of people who can be recruited and the morale of the team.

The other device, matched funding, operates to ensure that the experimental group have an equal financial commitment to the scheme. The central agency agrees to fund only the same amount as either the project group or in some cases a local or district authority. In times of economic growth this can be an acceptable form of funding and seems to be a useful device for encouraging an initiation of innovation within institutions. In times of stringency, however, local groups will generally be hard put to find the necessary matching funds.

It might be added in concluding this section that we lack information on the details of how the projects described in early chapters were funded. This implies no criticism of the studies for it is something that seldom emerges from exercises of this kind. It is nevertheless important information and it will be suggested in the next section that, if the costing study is carefully planned at the beginning, provision can be made for relevant information to be readily accessible to the cost evaluator.

## 6. SAVINGS AND RETURNS

The discussion, so far, has been concerned with the overall cost of mounting a curriculum development exercise. The aim has been to indicate the nature and origin of all those human and physical resources that may be called upon to support the development process.

Benefits are generally looked for in connection with improvements in teaching and learning or in the quality of social interaction. There is, however, the possibility of other kinds of benefit which, whilst not directly influencing the learning or social outcomes of a curriculum project may nevertheless affect the costs involved. There are basically two areas in which benefits of this kind might be sought. The first relates to returns to the project itself and the second refers to a possible reduction in the continuing costs of an adopting system. These are dealt with in turn.

### 1. Returns to the projects

The output from a curriculum development project is sometimes a 'marketable' product. This is particularly the case when learning or teaching materials are produced. The degree of transferability clearly varies according to the type of materials concerned, but there are instances in which their sale can result in a useful return

to the project. The Austrian project described earlier, although producing saleable materials, was obliged by law to distribute these free of charge, but the Avon scheme is under no such constraints and is clearly in a position to take advantage of the situation and thereby obtain a contribution towards development costs.

There does seem to be some evidence to support the view that the more that teachers are involved in the development of ideas and materials, the more they will respond positively to the final product. The Nuffield Junior Mathematics study, for instance, provides some interesting figures in this connection. The total cost of this centrally funded project (£283,000) was by the end of the sixth year more than half repaid in royalties to its sponsor, the Nuffield Foundation.(1) With reference to the dramatic response to the publication of the teaching materials (140,000 copies were sold in the first year and the total reached 250,000 by the end of the second) the report comments thus on the importance of local involvement through a newly created communication structure: 'The setting up of the Mathematics Centres during the pre-publication period permitted, for the first time, a local channel of communication for those specifically interested in mathematics teaching and the subsequent setting up of regional organisations and the various films, TV series and conferences helped to maintain the enthusiasm.'(2)

The scheme referred to above obtained national and international distribution for its material through commercial publishers. It was, therefore, constrained to a large extent by normal marketing and pricing procedures. This is not always the case with local or regional education authorities,who often support curriculum development with no commercial interests in mind. Without these constraints, pricing decisions are more difficult. There are various alternatives that could be adopted. The first might be to charge full printing costs plus a mark-up aimed at covering all or part of the projects' running costs. This policy may, however, reduce sales, particularly where the potential market is small and economies of scale in production cannot be achieved. The second possibility might be to subsidise sales by charging only a proportion of the costs according to what, it is felt, the market will bear. The third option might be to treat returns of this kind as a useful but non-essential bonus (perhaps helping towards such items as evaluation or continuation activities) and to charge only a nominal sum covering, perhaps, part of the printing and distribution costs. The fourth procedure might be to adopt a differential pricing policy and, for instance, provide free materials to those schools involved in the development phase, a subsidised price for teachers or schools in

1) E.W. Hewton, Nuffield Mathematics (5-13): A Profile. Int. J. Math. Sci. Technol. 1975 vol. 6 No. 4, p. 418.

2) Ibid. p.424.

the area or region from which the project was financed and a higher price for 'exports' to other areas. All of these procedures have been adopted at one time or another by curriculum development projects in the U.K.

The important point, however, about returns of this kind is that they do not actually reduce the cost of the development; they merely redistribute it. The overall costs of the resources used remain the same but these are partly recouped by payments made by 'consumers'. This reinforces the point made earlier that 'cost' will vary according to where the boundary is drawn. The cost of, or to, the project will be the total expenditure less any returns. The financial cost to an educational system which supports the project, however, will be the net cost of the project plus any further expenditure incurred, including the purchase of materials.

2. Savings in operation

This is one of the most difficult areas in which to pinpoint savings. It is also one of the most important from the standpoint of the educational technologist or curriculum developer concerned to establish that resources expended on the development of new approaches to teaching and learning or the production of materials will in the long run prove economically as well as educationally viable. The fact is that most innovations of this kind have, to date, shown that they add to the cost initially and in the longer term they either increase recurrent costs or show no significant reduction. The potential savings apparently associated with the use of educational television, audio-visual aids, teaching machines, computer assisted learning or independent learning schemes, always seem to be just out of reach. An increase in research and development expenditure or capital stock, shown by industry to be a way of increasing efficiency, does not seem to help to any great extent in educational situations. There may be more hope in school-based curriculum development. Reorganisation, and the redistribution of resources within educational units rather than between them can help. Structural changes, even small ones, involving regroupings of pupils and students (sometimes into much larger groups, sometimes into smaller groups) coupled with the carefully controlled use of self-study materials can bring about the more effective use of teaching resources.

It is towards the improvement of the management of learning, particularly at the school based level, that attention should be directed if savings of this kind are to be achieved. The constraints imposed by fixed class sizes and inflexible timetabling, however convenient administratively, are an enormous barrier to the implementation of changes that can bring about savings in the cost of some activities in order to offset increases in the cost of others.

Such savings are not always measurable in simple monetary terms. For instance, a teacher who is enabled to provide remedial teaching to a small group because the larger group for which he or she is responsible can study independently from previously prepared learning materials, represents a saving within the system. Such a saving (or benefit, for the two are often indistinguishable) can only be described, but is nonetheless important from a costing standpoint.

## 7. CONCLUSIONS

The motivating force for curriculum development derives from an assumption that improvements in the educational system are both desirable and feasible. To use a medical analogy, the patient is alive and functioning but is in a less than satisfactory state of health. Injections (of ideas and resources) offer a temporary boost, but in the longer term the general malaise overtakes the stimulants and the patient struggles on in the same depressed fashion. It is the psyche or spirit which needs the uplift and if this occurs the body rejuvenates itself. The problem is that an injection is cheap by comparison with alternative time-consuming techniques such as psycho-therapy or psycho-analysis.

How far is the final analogy true when applied to the educational process? Is the centrally-funded injection method cheap compared with the creation and support of a self-appraising, self-improving school based community? Common sense suggests that centrally stimulated effort must be the cheaper. The motivation, effort and skills necessary to invoke and sustain school-based development must be more expensive, if for no other reason than the size of the overall system and the time necessary for such basic reform. Ideas for improvement abound and many experimental schemes have proved successful but there is no simple way of bringing about substantial and widespread improvement. Resources on the scale necessary are simply not forthcoming.

The least that can be hoped for is that the amount currently invested in curriculum development will be maintained in real terms and that it will be used as effectively as possible. It is in these circumstances that careful costing studies can help. The present trend towards the study of different innovation strategies involving centrally and locally based development, a concern for evaluating outcomes and an attempt to understand the relationship between strategies and outcomes is encouraging.

The tendency which existed in the past to look only at hard data and at measurable outputs is changing. In recent years the criteria for evaluating the process and the results of an exercise

have broadened considerably. But inputs, an equally important aspect of the development process, have been neglected, largely because they have been regarded as fairly unproblematic. This paper has attempted to show that inputs are as complex and as crucial to the overall appraisal as outcomes. In the evaluation of educational developments, inputs and outputs are complementary and mutually supporting.

The role that cost ought to play in the analysis of curriculum development should be decided when the purposes of the study and the intended audience has been determined. The degree of detail may vary from study to study but cost should always be viewed in its broadest sense. Costing, with its connations of profit and loss tends to be expressed in pecuniary terms but the decision as to whether or not to place a monetary value upon an input is normatively determined. Such norms have their origins in commercial, industrial and national accountancy procedures but these procedures do not fit neatly with the educational process. It is now generally accepted that outputs from an educational programme can only partially be measured in economic terms. The same applies with equal weight to the inputs.

Cost therefore has to be ascertained in a much wider context and the only way in which this can be done (for the present at least) is by careful observation and description. This is not a simplistic view. The intention of an evaluative study is to make available information about an educational process that will enable others to draw from it ideas and conclusions relevant to their own situation. Cost therefore can and should be expressed in various ways depending upon the involvement and perspective of the intended audience.

In general terms, the evaluation of the cost of an educational programme or project involves the identification and analysis of the time, effort and resource used, directly or indirectly, in facilitating the process. It may not be possible to provide an equation clearly offsetting costs and benefits, inputs and outputs, but this is not crucial. The important point is that the information should be meaningful and relevant to the reader. This chapter has attempted to indicate the way in which this might be achieved. The statement made earlier concerning the information requirements of a general audience is worth recalling with the reader of the present document in mind.

Costing information should be sufficient to provide a background or perspective that the reader can relate to his or her own situation. It should suggest answers to some of the broader questions related to cost which cannot be dealt with in purely monetary terms and indicate generally how the development was financed and how resources were used. It should explain the implications for transferability and extension but at the same time not be so detailed as to lose the reader in financial technicalities.

The studies in this document do not achieve this but then they did not set out to do so. In virtually all case studies inputs are given only scant attention. Hopefully, in the future, researchers and evaluators will begin to balance their work by the inclusion of more cost information in the broadest sense of the term. This would certainly facilitate a much greater understanding of the process under review.

Part IV

SYNTHESIS OF FINDINGS

## 1. INTRODUCTION

The case studies presented in Part II of this report illustrate the wide range of responses a desire for structural educational change may elicit in different national contexts.

They include a new school (Switzerland), a catalogue of teaching objectives (Austria), regional teacher centres (Germany), pockets of local educational freedom (France), sporadic instances of private initiative tolerated by an otherwise conservative system (Italy), and innovations across an entire country (United Kingdom). The services and individuals involved, the nature of the curricular reforms (choice of topics, learning objectives, teaching methods), the private and public means of financing adopted, all vary from country to country. Underlying the circumstantial differences, however, are a number of similar approaches.

## 2. THE SOCIO-POLITICAL DIMENSION

School-based curricular developments as herein reported are in general inspired by national or local political pressures which, while creating favourable conditions, also impose limitations.

The political component is clearly discernible in those countries where the educational system is centralised. Thus, in Austria, the school-based innovation studied applies only to technical education, that is, to the educational sector least under public pressure for reform (Austria p.169) and for which the government is therefore least likely to have to account for immediate results. The official blessing is, moreover, confined to innovations in teaching objectives; other curricular changes are difficult to make because of the need to secure a two-thirds parliamentary majority in favour of any far-reaching innovation.

In France, which also has a centralised educational system, it was powerful pressure from student unrest in the late sixties and early seventies which led the Minister of Education, after first consulting a committee of experts, to decide to free ten per cent of the secondary school timetable for autonomous innovations.

In decentralised educational systems, the socio-political determinants seem no less significant. The experiment reported here from one of the most educationally progressive states in Federal Germany was, for instance, prompted by the intense desire for school reform which characterised the 1960s, when 'awareness prevailed...of the

relationship between economic growth and educational systems' and of the fact that 'the strength of the German economy would urgently demand a continuously growing number of qualified.... secondary-school leavers' (Hesse p.191).

Political and economic factors also motivated the foundation of the new school in Zug, one of the wealthiest cantons in Switzerland. The school prepares young people for entry into apprenticeship and into vocational schools. A committee comprising members of various political organisations together with employers and employees determines the curriculum and moderates the work of the educational experts and teachers so as to ensure that the main goal of producing better qualified prospective employees is not forgotten or blurred on the way.

Among the countries surveyed in this report, the United Kingdom remains an exception in so far as a direct relationship between socio-political forces and educational innovation is concerned. The tradition of local educational autonomy constitutes a barrier between national political initiatives and what actually goes on in the schools. Consequently, British education has evolved as a result of pressures and demands internal to the education system rather than in response to external (that is, other than educational) forces. While providing an illustration of this fact, the United Kingdom report nevertheless indicates, as the following paragraphs will demonstrate, that grass roots educational changes effected in a climate of local educational freedom unique in Western Europe, have followed patterns of development that do not differ significantly from those observed in less educationally 'permissive' countries.

## 3. OPERATIONAL DEVELOPMENTAL PATTERNS

In spite of varying legal, administrative and financial constraints that operate, school-based innovation has taken place along roughly similar lines in all six of the countries studied here, regardless of structural differences in the education systems.

### 1. Experts first

In the first place, despite explicit and reiterated demands from the schools for more active participation in educational innovation, it is unusual to find the staff of a school being responsible for the inception of school-based curricular development. Thus, the Austrian Lehrzielbank owes its existence to a university researcher and a Ministry of Education official; the regional teacher centres in Hesse began as part of a general school reform initiated by the government; the French initiative was set in motion by the Minister of Education

himself; finally, the Zug school was founded by a commission of politicians and representatives of the labour market working at canton level in close co-operation with an educational research group.

Education experts have also been to the fore in the inauguration of schemes for school-based innovation in the United Kingdom. Teachers there are now increasingly becoming curriculum developers in their own right but in the main it still falls to specialised bodies like the Schools Council to plan and implement strategies that will encourage schools to become actively engaged in the production of their own instructional materials.

In Italy alone among the countries surveyed it is practising teachers who have taken the initiative in founding schools - those described in the text - where, when present at all, educational experts and researchers have served only as a sounding-board. These Italian examples are, even so, the most limited in scope. They are confined to isolated schools and there is no visible likelihood of the experiments being reproduced elsewhere in the country, especially in view of the de facto and de jure obstacles to educational innovation which exist in Italy. Nor do such experiments seem likely to shake in any way the hierarchical power relationships upon which the Italian education system is firmly based.

It would seem then that, in general, teachers perform no effectual role during the initial stages of school-based innovation. Some of the case-studies are adamant, however, that teachers should be recruited on a large scale at the programming stage, when the new educational materials will be devised, together with any relevant new teaching or learning methods. Thus:

> It was decided that the project should be teacher-centred: the lists (of objectives) were to be developed by teams of (typically) four teachers, with one research adviser from a university and one administrative adviser from the Ministry of Education (Austria p.163).
>
> In 1972, the planning (by the government) of school-based curriculum development in Hesse concentrated mainly on the schools, and particularly on the teachers. The aim was a change in the social responsibility of these professional agents of change in curriculum content (Hesse p.192).
>
> The teachers who were originally selected for the concretisation of the school's overall goals (i.e. translation of expert-based learning goals into school-oriented learning objectives) only began their work at the start of the second phase of the project (Zug p.131).
>
> Increasingly the solution has been seen (by national curriculum development teams) to move to a totally different way of working, where the focal point is the work in individual schools

and the project team acts as a communicating mechanism helping teachers...to relate to one another so that the stock of usable strategies and resources can be made more available (U.K. p.80).

2. The legitimacy problem

The recruitment of what we shall call the teacher-programmers does not appear to constitute a major problem in the cases analysed here. Organising committees seem to muster without difficulty the initial quota of teachers - some through secondment from teaching duties, others on a purely voluntary basis.

In all the cases analysed, problems arose when action was taken both to widen teacher participation at the programming stage and to train interested teachers to pursue the prescribed goals and to use the prescribed material. The difficulties ranged from those customarily encountered among teachers when school reforms are in question - lack of interest or competence (or both), and fear of departing from a familiar and established routine - to a problem that is particularly closely linked with the implementation of school-based curriculum development, namely the vexed question of how pedagogically legitimate in the eyes of teachers the proposed reforms will appear. How can conflicts be avoided among the staff of a school when they participate at different levels and with differing degrees of involvement in the elaboration and implementation of a school-based programme? Particularly dangerous are the reactions of those teachers not involved at the programming stage when they find that the demands made on them by the innovations do not appear to be appreciably different from the exigencies of centrally-planned curricula, with the additional aggravation that the leading spirits are not recognised legitimate authorities (Minister of Education, local education authorities or Headmasters) but their own colleagues whom they see as in no way different from themselves. The conflicts that can arise here may well have disruptive consequences for the implementation of the whole programme.

The German case study acknowledges the situation in so many words: 'the problem of "legitimising" the work of a minority' was posed:'to what extent could/should systems developed by a few... form the working basis for the many?' (Hesse p.204).

The United Kingdom survey also reports the problem, noting how one school consented to be involved in a 'long-term organisational analysis of the structure and relationships of the staff...at a time of major administrative and staffing changes' (U.K. p. 95) and commenting that the issue touches upon 'problems of identity, discipline, role, competence and, centrally, problems of power' (U.K. p. 95).

In none of the countries dealt with here was an overall solution suggested for this complex issue that can assume as many facets as

there are people involved, programmes proposed or situations imposed. As a rule, teachers were theoretically free to reject or adopt any proposed innovation but, given the complicated relationships existing within a school, their freedom to use or refuse new materials or to follow or decline to follow directions issued by a colleague was in practice severely limited by the risk they might run of giving offence to a hierarchically superior member of staff holding a contrary opinion. This was the finding of the official assessment of the French 'Ten Per Cent" experiment. It observed that, notwithstanding undeniable obstacles to co-operation among teachers, 'teachers were quite able to work in teams when the conditions were right'. However, 'school heads could make or break such activities' ('Ten Per Cent', p.122).

The German study indicates the existence of similar discouragements to teachers, this time emanating from outside the school. By 1974 'the reviews and checks being carried out under the heading of "Berufsverbot"(1) had become known and considerably diminished the readiness to run risks with involvement in school-based curriculum development' (Hesse p.227).

In our six reports, the most valid method proposed for parrying teachers' objections would seem to be the inclusion of representatives of the higher educational authorities in the managerial bodies thereby ensuring that such authorities are visibly concerned, sanctioning by their presence the activities of the tiny élite of teacher-programmers. In Hesse a mediating body made up of school leaders and LEA directors and having as its specific function to 'pronounce on controversies which arise - that is, to avoid any premature rejection of promising approaches by a majority of teachers' (Hesse p.205) - ensured that during the planning phase of the project the suggestions of the orientation groups (that is, the teacher-programmers) were married with the requests of the main corpus of the teaching profession. An administrative adviser from the Ministry of Education fulfilled an analogous function in the Lehrzielbank project (Austria).

Once SBCD programmes are under way, the composition of bodies responsible for co-ordinating the decision-making process may require to become more broadly-based. In Hesse, for instance, a regional advisory council - comprising Headmasters, representatives of teachers' organisations, the parents' and pupils' council of the area, and the regional education authority - was set up 'operating together with the co-worker conference...in case of dispute it has the right to a decisive say on one third of the projects put forward'. Democracy in decision-making was thereby safeguarded. But the great drawback of such an institution is the threat which it constitutes to teachers' autonomy. As the German study points out: 'The system

1) A form of blacklisting to exclude radicals from certain posts.

can operate either by having a useful effect on the progress of regional school development or by allowing teachers to fall under yet further control'. German teachers have admitted that the latter is their predominant fear and have expressed the view that 'the decisive factor for the future institutionalisation of SBCD in Hesse is that it should be separated from the educational authority'. It was, moreover, through awareness of this potential conflict between the need for legitimacy and the safeguarding of individual liberty that the administration responsible for the general schools declined to join the Austrian Lehrzielbank project. Their fear was that 'such a scheme might lead to a curtailing of teachers' freedom' (Austria p.163).

When the autonomy of teachers is under no evident threat, that is, in the absence of conflicts external to the school, the problem still remains intractable. As the United Kingdom study points out, group decisions, designated in Part I of this volume as the most likely salve for conflicts internal to the school, have proved insufficient to ensure equilibrium in time of change since '.... the continuous process of consultation that is required within a school is something far more complex than having a say in decision-making. Essentially it is a kind of self-education. It therefore involves a commitment to learning that is bound to entail pain and struggle' (U.K. p. 96).

3. Teachers' autonomy

Torn between the wish to innovate and a desire to conserve, reinforced by fear of the possible erosion of their established roles and status, trapped also between research experts and the framers of educational policies, in the last resort it is still the teachers - and this is no cause for suprise - who are responsible for the successful prosecution of school-based curriculum development.

In Hesse, as we have seen, feedback between organising bodies and practising teachers was essential in facilitating experiment. Initial plans were often left open to change after trials in classrooms and were usually modified in the light of the recorded findings. For instance, 'in many cases, what seemed an unsolved problem in teaching material in the eyes of the development group was not treated as a problem at all by the teacher adapting it' (Hesse p.201). This type of result convinced the managing bodies that 'supply of material should in any case allow for further development and alteration, in order to bring the teacher into an active relationship with the material, i.e. allow him to use his existing expertise'.

The importance ascribed to teachers is no less realistic in the case studies covering countries where there is a centralised education system. In France, one of the avowed aims of the 'Ten Per

Cent' experiment was indeed to change the attitudes and working habits of French teachers. The ministerial circular required that the ten per cent of the school timetable in question be used for activities placing emphasis on team-work among teachers. In an educational system where the majority of teachers come together only during a brief term meeting - and then uniquely to 'compare pupils' results in each subject' - the invitation to co-operate could not fail to arouse considerable resistance. Thus, the French study notes that opposition on the part of teachers was a major reason for the decline of the ten per cent scheme within a year or two of its inception.

In Austria, as in France, teachers are unaccustomed to team-work. For them, we are told, staff meetings are not thought of as 'a framework for co-operative decision-making but as an instrument of school administration mainly for decision on student grading'. Yet the Lehrzielbank project succeeded in involving teachers by devising, within the considerable constraints of an education system just as centralised and rigidly administered as that of France, a structure of which a major feature was financial support. Teachers who were members of the project teams were relieved on full pay of part of their teaching duties. Others attending training seminars during the school year also received their full salary, together with travelling expenses and a per diem allowance. These measures ensured the continuous participation in the project of a considerable section of the teaching population. Nothing of the kind existed in the French experiment, and a heavier loss in terms of time and money was incurred by those French teachers willing to take part in innovations than by their Austrian counterparts. The discrepancy may go far to explain the differing fates of the two schemes. It would seem that if teachers who are asked to depart from the traditions for which their training, and possibly their inclinations, fit them are hesitant in responding unless they receive assurances of time-table and financial stability, their more enthusiastic colleagues may also prove to be only human where additional financial burdens and heavier work-loads are concerned. Moreover, when teachers desert educational programmes it would seem advisable to exercise great care in coming to any conclusions regarding either the quality of the new scheme or the attitudes of the teachers towards it until these particular background factors have been thoroughly investigated and taken into account.

A further general principle, again not surprising and indeed foreseen in Part I, is that pre-service teacher training has little predictive value for later teacher participation. Repeated ad hoc in-service training courses and seminars are necessary prerequisites for turning the average teacher into an agent of change as well as for ensuring that he will remain one over a period of time.

In the French 'Ten Per Cent' experiment, none of this was envisaged and in its absence enthusiasm waned and opposition found fertile soil in which to germinate. The Austrian provision, on the other hand, ensured an adequate enrolment of teachers throughout all stages of the Lehrzielbank project; in Hesse the same was true until recent changes at the central political level placed obstacles in the way of further development. The British survey prompts a similar generalisation, the great majority of the programmes in question being centred upon securing and maintaining the continuous involvement of teachers through a variety of more or less formally organised seminars and meetings.

## 4. THE INNOVATIVE TEACHER

Only one of the case studies included in this report has emerged with the kind of self-examining question indicated as a priority in our introductory chapters. Is it possible to identify in advance those members of a teaching staff who are most likely to participate actively in innovative educational change?

The German study attempted to assess whether, in the four geographical areas chosen for their experiment, any appreciable variations in personality or in professional qualifications could be said to distinguish the sample of participant teachers from their colleagues. Analysed across the geographical boundaries, the data revealed no significant criteria which, in a large area, might be used to identify potential innovators. When broken down by region, and the teachers' profiles being analysed within a smaller geographical entity, however, differences did emerge between the group of participatory and the group of non-participatory teachers. Furthermore, the resulting profile differences were not the same in the four areas under consideration (Hesse pp.212-229).

This analysis carried out on population samples large enough to ensure statistical validity to the findings might possibly be adduced as evidence that, given a homogeneous socio-geographical environment, a set of individual characteristics might be compiled with a view to identifying 'expert' teachers from among the general body of 'recipient' teachers. Territorial limitation would seem to be a prerequisite for a successful scheme along these lines, more than individual teachers' characteristics.

## 5. EVALUATING SBCD

The importance of evaluation in school-based curriculum development was clearly laid down in Part I. The case studies analysed in

Part II now provide us with a certain amount of information concerning the extent to which the stated objectives of certain programmes have actually been fulfilled. Other kinds of evaluation have not, for various reasons, been attempted. The project described is still too young (Zug p.131 sqq.); successful implementation of school-based changes involves careful, flexible planning through 'changing frame factors....which make a project less than satisfactory from the point of view of educational theory' (Austria, p.184). An empirical evaluation cannot be essayed in such circumstances. The same can be said of experiments whose objectives are phrased with a lack of precision which prevents any satisfactory clarification of the targets to be evaluated. This was the case with the French 'Ten Per Cent' scheme.

The difficulties encountered in seeking to apply orthodox research criteria to experiments of the kind described in this report are perhaps best summarised by the Italian survey (Italy p. 67) when it states that the terms 'educational experiment' and 'pilot scheme' are used since 'they embody, institutionally speaking, situations departing from the classic norms, especially in respect of internal organisation, the social climate of the school, interpersonal relationships, the educational rapport between teachers and taught'. In this context, 'the terms "working hypothesis" and "proof" are used, however, more in relation to the internal learning process than to external controls; still less can the question of their generalisation be posed, hence of their validity, since usually there is no possibility whatever of working on random samples'.

What is the alternative? The answer seems to lie in testing the validity of a school-based innovation in the medium and long term, to check whether or not it is strong enough to overcome the various obstacles it is bound to meet in the course of its implementation. In other words, we can conclude with the United Kingdom survey that the most reliable evaluation evidence seems to be that school-based curriculum development is effective when it endures, provided that there is agreement as to what the concept entails. In this respect we have discerned a number of conditions that seem to be determinant in sustaining innovative efforts at school-level. They have been social, political, attitudinal, organisational and motivational. In Part III we also considered a further equally crucial determinant, namely the financial factor.

## 6. THE CASE FOR SCHOOL-BASED CURRICULUM DEVELOPMENT

It was noted in Chaper 1 of this report that for some educational planners school-based curriculum innovation is a desirable alternative to changes imposed from the centre. In their view,

school-based curriculum development is a remedial activity, introducing at local level programmes expressly designed to eliminate the theory-practice gap which is frequently blamed for the unsatisfactory implementation of centrally-planned schemes. Secondly, it was thought that changes might be more easily accepted and disseminated if conceptualised and developed in the immediate environment of a school staff. Finally, school-based programmes seemed to constitute a step in the direction of the self-management which schools increasingly demand.

To what extent did the case studies here reported provide evidence for these contentions?

In the first place, there is no doubt that close co-operation between educationalists and local practitioners in both planning and programming a course produces results that can be translated realistically into classroom practice. The German and Austrian case studies both contain valuable and detailed accounts of the type of modification that can be made in the light of feedback from teachers actually engaged in the early stages of implementing a programme.

Nevertheless, grass roots dissemination of school-based curriculum development seems no easier to achieve than centrally initiated dissemination. Where finance is concerned, school-based programmes, although generally operating on smaller budgets, yet pose specific administrative problems. And linked to the question of funding and administration is the need for other resources such as technical expertise and teaching or learning materials. Happily, the case studies point to a feasible solution to the latter difficulty: the creation of regional resource centres. Sometimes attached to Teachers' Centres, sometimes autonomous, these are being established increasingly in a number of countries, their task being to provide schools with the facilities necessary for new programmes and approaches while at the same time pursuing a policy of leaving the final decisions regarding the selection and adaptation of material for classroom use to the teachers themselves. Alongside such provision, in-service training courses must further equip the teacher with the particular knowledge and skills that he/she requires in order to become an innovator in his/her own right.

Have the schools acquired greater autonomy through the adoption of school-based innovative programmes? There is so far no evidence that this is the case. Indeed, in spite of the variety of response reported here, very little has changed in the distribution of power within the education systems in question. Where schools already enjoy a measure of autonomy, as in the United Kingdom, no increase in decision-making power has devolved upon them. Where autonomy was restricted, even severely so, the teaching staff were given the opportunity to participate in organisational or developmental committees

but ultimate control of the proposed innovation has remained in the hands of the traditional school authorities.

## 7. CONCLUSIONS

While some pointers exist towards the variety of ways in which school-based curriculum development can usefully - and realistically - be expanded within educational systems, the present sample is too restricted to permit anything more than tentative conclusions to be drawn about their general significance. Even so, a sufficient number of similarities emerge in these case studies to identify a general developmental pattern for SBCD programmes, exhibiting a number of interlocked - and mutually dependent - conditions for the successful introduction of such programmes.

The findings so far to hand argue that the role of the individual teacher is, not surprisingly, crucial: the motivation and competence of the teacher in the classroom is pivotal to the success or failure of any SBCD concept.

In this context, teacher resource centres and other support agencies are particularly important in supplying these individual agents of internal change with back-up programmes, such as in-service training courses.

Equally necessary, but more difficult to predicate, is a social climate predisposed - or at least not hostile - to change, both within the school itself and in the community which surrounds it.

Furthermore, it is evident that curriculum development based on the school requires devolution of real authority by the central administration.

In the case studies reported above, this has not happened to any large extent. Despite relevant national efforts to come to grips with the complex technical problems involved, power has by and large not changed hands.

It could be aruged that no more educational autonomy can be given to teachers before their competence as curriculum developers is firmly established. It might be wiser to delay the evaluation of this particular issue until the 'competence' level is reached. Once there, perhaps that will be the time to ask about the role and scope in decision-making of two other groups intimately concerned with school - pupils and parents, who have both been largely ignored by the programmes of SBCD outlined above.

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